European Co-ordination Centre
for Aviation Incident Reporting Systems

ECCAIRS REPORTING SYSTEM
USER MANUAL

ECCAIRS on the World Wide Web: http://eccairs-www.jrc.it/

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1 Document conventions

Manual organisation

This user manual is organised as a reference to the functions included in the ECCAIRS Reporting System software. Here and there we also suggest or demonstrate exemplary actions useful to explore system capabilities and options. The exemplary data sets and samples used are not real and this manual is intended only to demonstrate the usage and user interface of ECCAIRS client software.

Beyond this manual there is the Software Installation Manual, aimed at the system administrator, and a number of white papers and technical support documents available on the ECCAIRS web-site.

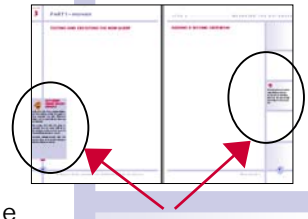
This manual is divided into several parts, the first introducing the ECCAIRS Reporting System itself and all the other dealing with its main applications and utilities (smaller, auxiliary applications). Each chapter within a part is dealing with a specific set of program features. Chapter numbers are shown in red in the upper-right corner of each odd (right) page and as first figure of the page number. Each chapter is in turn divided into sections, organised as a one (rarely two) page self-standing unit of information.

Typographical conventions

The following typographical conventions are used:

- Blue and Bold to indicate selections (e.g. buttons or menu or menu-items), specific (dialog) window names, or simply other important text to be emphasized.
- `Mono spaced` for file and path names.
- Keyboard keys in square brackets, with a plus sign separating keys that you press simultaneously.
  For example: "…press [Ctrl]+[Alt]+[Del] to restart your computer…"
- Arrows ("→") to separate ordered selections in menus.
  For example: "… select File → New form the main window …".

Scattered through all the guided tour steps there are ADDITIONAL INFO BOXES.



Info-boxes are placed either here, within the left-hand side grid, or in coloured boxes across and along the right-side margin line..

They contain notes on current actions being described or hints on alternative actions to take in case some options are not available or suitable to the user.

They may also host quick hints on more functions available or suggestions for user self exploration of program features.

2 ECCAIRS OVERVIEW

ECCAIRS ACTIVITY

To decrease the rate of commercial air traffic accidents the European Commission has introduced a regulation on occurrence reporting in civil aviation which collects and disseminates information on aviation incidents on a European scale so that we can learn from events and produce a safer transport system.

In individual States, the number of significant occurrences may not be large enough to give an early indication of a potential serious hazard or to identify trends. Access to a larger database would certainly improve the quality of the safety information.

Most aviation authorities in the EU have, in differing ways, collected information about aviation incidents and accidents. Since these authorities had proprietary data formats (electronic or paper based) mutual access to information was almost impossible.

To improve this situation the European Commission started ECCAIRS (European Co-ordination Centre for Aviation Incident Reporting Systems).

The objective of ECCAIRS is to contribute to aviation safety through early detection of potentially hazardous situations in an integrated, EU wide collection of incident and accident reports.

ECCAIRS NETWORK STRUCTURE

At the heart of the ECCAIRS network an information system integrates, disseminates and assesses data and information at European level.

At the other nodes (the national Civil Aviation Authorities and/or Accident Investigation Bureaus of the EU Member States) data is collected and assessed locally.

Because of the compatible data-formats Member States can mutually exchange data on a peer-to-peer basis. Information in the network remains property of the contributing organisations, also when integrated in the central database.

ECCAIRS DATA TOOLS

The ECCAIRS reporting system, a tool made available free of charge, allows the EU authorities to collect and exchange information on occurrences in a standardised way. Resources previously invested to create and maintain local reporting tools, can now instead be allocated to the analysis of the collected information.

Within the reporting system a graphic tool is provided, allowing to produce easily, quickly and on-line the most common statistical graphs.

ASSESSMENT OF DATA COLLECTED

Assessment of the integrated information can be done by all contributing organisations, following agreed procedures. The co-ordination of the analysis and the dissemination of the results are under control of a steering committee. The objective is to arrive at a reliable and common methodology to assess the development of aviation safety in the EU. The results can provide information to national and EU policy makers in the aviation transport domain.

Occurrence reporting system

The ECCAIRS occurrence reporting system is a set of software applications that provide together a complete solution to organisations that want to collect aircraft incidents and accidents (occurrences) in an ICAO compatible format.

The system includes facilities for easy electronic contributions to the ECCAIRS central office. The reporting system can be made available, after a translation of its internal dictionary, in any of the official languages of the European Union.

ECCAIRS 4 is a completely overhauled version of the previous ECCAIRS 3 reporting system. It is based on a new taxonomy (ADREP2000), uses new data-formats (XML based), has a new user-interface (tree-structure instead of tabs) and, in addition to the improved Flight Operation domain, supports now also Air Traffic Management occurrences.

ECCAIRS Browser

Occurrences are entered, modified, viewed and printed with the ECCAIRS Browser.

Authorities can start exchanging compatible data electronically with peer organisations and the ECCAIRS central office. Data consistency and efficiency at the network level is thus guaranteed. EU authorities are also obliged to report serious incidents and accidents to the International Civil Aviation Organisation (ICAO) in a standardised format (ADREP). Because ECCAIRS has adopted ICAO's ADREP format, these reports can now be sent electronically without the need for data conversion.

Occurrences can be stored locally in an ECCAIRS Data Format file and can be stored in a relational database when the ECCAIRS Browser can be connected to the database server.

Occurrences are retrieved from the database through queries built by the users. Queries can be constructed easily without any knowledge of the used technology (e.g. SQL language).

Common queries can be stored in libraries, exchanged with other users and re-executed any time.

ECCAIRS Grapher

In addition to the ECCAIRS Browser application there is also an ECCAIRS Grapher, a graphing tool, which produces easily, quickly and on-line the most common statistical graphs.

Though the Grapher is not a full featured data-analysis tool, this application allows to produce a large range of graphs that can illustrate trends in the occurrence data.

The user can show the relation between 2 or 3 data fields in various 2D or 3D graphs.

Most of the more common graphs can be made in a very simple way. Graphs can be made visible on the screen or printed in a report.

These graphs are created once and can then be applied to any other subset of the local or compatible database. The subset of occurrences to consider in a database can be identified easily with the Query Builder, which allows a user to compose queries based on a combination of criteria using any of the ECCAIRS data fields.

Queries and graphs can be stored in files that can be easily exchanged with other ECCAIRS users.

ECCAIRS Utilities

A number of other applications, either as tools or for administration, are also included in ECCAIRS software standard installation:

- Repository Manager (administration): ECCAIRS 4 uses repositories, a collection of data objects and rules, to access the data warehouse (based on a database or a file). The Repository Manager allows the administrator to manage centrally also all user specific settings related to security, access methods, database- and application properties. The use of Repository Manager is described in ECCAIRS 4 Software Installation Manual.
- E4F Generator (tool): This is a utility used to generate ECCAIRS 4 Data Files (*.E4f) from a repository database. E4F files contain ECCAIRS occurrences in an XML based format. E4F files may be used to store, exchange and backup occurrences in an ECCAIRS repository.
- E4F Loader (tool): This is a utility used to load E4F files in a repository's database. It is also useful for restoring the contents of a database from E4F backup files. Usage of the E4F Loader is mandatory when upgrading to a new version of ECCAIRS and the data format and/or data taxonomy has been changed.
- Test ECCAIRS 4 Installation (tool): This utility is used after an installation to detect possible incompatibilities with specific Operating System components, which may be not up to date. Refer to ECCAIRS 4 Software Installation Manual for details.
- Dictionary Browser (tool): This utility is an on-line Dictionary that will help the user understanding the standard (ICAO) nomenclature and drive him/her little by little when compiling an occurrence. It gives a quick and complete view of the taxonomy used by ECCAIRS, i.e. all topics, sections and attributes available.
- Exporter (tool): This is a utility used to export subsets of data from the database in a variety of different formats, respecting the security profiles for the current user as defined in the repository. Possible usage include: creation of customised reports, analysis of sub-sets of information in 3rd party environments, passing information to users of non compatible systems, etc.

ECCAIRS OCCURRENCES

In ECCAIRS an occurrence is any type of accident or incident related to aviation operations.

The seriousness of an occurrence can range from an event without a safety effect to a fatal accident.

The local policy of an organisation determines which type of occurrences are considered reportable and thus should be entered in the ECCAIRS system. However, in the European Union a Directive on Occurrence Reporting in Civil Aviation defines what is a reportable occurrence.

The classification of occurrences in ECCAIRS 4 complies, at the highest level, with ICAO's ADREP definitions as defined in Annex 13 of the ICAO convention.

Though in ECCAIRS the basic data records are called occurrences, in reality what is stored in the ECCAIRS repository are Occurrence Reports. Part of the information stored for an occurrence, for example the narrative and the event tree, is in fact subjective of nature. For practical reasons the term Occurrence in the ECCAIRS documentation is normally referring to the Occurrence Report as stored in the system.

Differently from some other aviation occurrence reporting systems, in ECCAIRS an occurrence involving multiple aircrafts is only to be registered once and not as a different occurrence for each aircraft.

An occurrence in ECCAIRS 4 is uniquely identified by the combination of two attributes: State Reporting and State File Number.

ECCAIRS REPOSITORIES

The concept of an ECCAIRS repository has been introduced in ECCAIRS 4 to distinguish it from the traditional database approach.

The Repository is a place where the manager of an ECCAIRS information system stores and manages centrally not only all the data but also all user specific settings related to security, access methods, database- and application properties.

When a user establishes a connection to a Repository the working environment and the user privileges, as set by the Repository administrator in the Repository Manager application, are transferred to the user's workstation. Only then he/she is able to access the database in the Repository. This implies that user specific settings can be managed centrally and are applied anywhere from which the user makes the connection.

It is possible to have a Repository without a database. In such a case the connected user can still access occurrences in an E4F file applying the settings as defined for the specific Repository but will not be able to access a database (for this repository).

ECCAIRS TAXONOMY

The Taxonomy of ECCAIRS 4 is the catalogue describing what information can be stored in the ECCAIRS 4 Repository and how this information is (possibly) encoded in the data fields.

Most of the Attributes of ECCAIRS 4 contain actually numbers that represent textual descriptions. The user never sees the numbers but instead sees the descriptions.

This approach facilitates the implementation of nationalised versions, increases the consistency of the data and reduces the storage requirements.

ECCAIRS 4 is implementing a very comprehensive catalogue of terminology and data fields and values, owned by the International Civil Aviation Organization, which is called the ADREP 2000 taxonomy.

CHAPTER 2

ECCAIRS TOPICS, SECTIONS, ATTRIBUTES AND VIEWS

In ECCAIRS 4 data is collected in hundreds of different Attributes. The values of these Attributes are stored in the ECCAIRS repository (in the database). Some Attributes are valid for an Occurrence (like the 'Date' the occurrence took place), others instead are valid for a sub-entity of the occurrence (like the 'Model' of an aircraft, in particular when the occurrence involves two aircrafts).

For visualisation and editing purposes, Attributes are grouped together in Sections. In the standard ECCAIRS 4 system these Sections are fixed and cannot be changed by the administrator of the system. An example of two Attributes grouped together in a section is the 'Latitude' and the 'Longitude' of the place an occurrence took place (grouped together in Section 'Where').

For navigation purposes Sections can be grouped together in Topics. Unlike the Sections, Topics can be customised and/or created, by the administrator of the ECCAIRS repository. All Topics together can form a hierarchical tree by which the user of the ECCAIRS Browser can identify the place to look for particular information.

A group of Topics placed in a particular sequence (hierarchical tree) can be made available to the users of a Repository as a View. Though the ECCAIRS system comes with two particular Views (one for an ADREP and one for an ATM representation of the information) an ECCAIRS 4 administrator can modify or add Views and Topics as required.

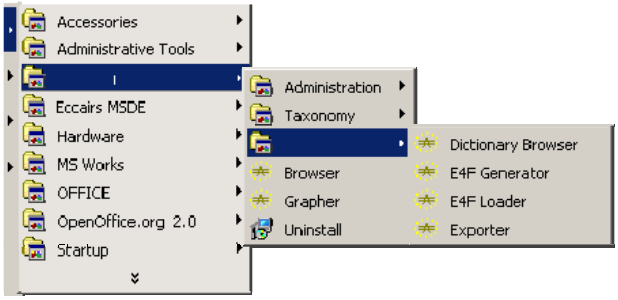
By default two particular Views exist, which do not contain the navigation tree: the ADREP Preliminary View and the ATM Preliminary View. These Views do not contain Topics or Sections and the Administrator of the Repository cannot modify these Views.

It is important to understand that Views and Topics only change the way the data becomes visible. Occurrences created in any view, can be looked at in any other View, since the Attributes that contain the information are always shared.

3 RUNNING ECCAIRS APPLICATIONS

THE APPLICATIONS SUITE

ECCAIRS software is a suite of main applications (i.e. the ECCAIRS Browser and the ECCAIRS Grapher), plus a number of auxiliary applications or Tools.

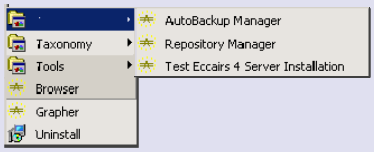


The rest of this chapter describes the Logon sequence and repository selection and/or search, which is exactly the same for all the ECCAIRS applications and tools (except those mentioned in the note box below).

PRE-REQUISITES AND ADMINISTRATIVE TOOLS

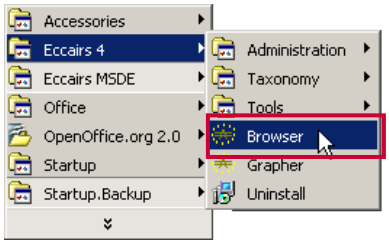
The ECCAIRS applications suite can run only after a successful installation and after the configuration and definition of users and repositories.

*The **Repository Manager** and **Test Eccairs 4 Server Installation** (both in **Programs → Eccairs 4 → Administration**) are aimed at this and are described in the **ECCAIRS 4 Software Installation Manual**, together with all the installation and configuration instructions for the ECCAIRS system administrator.*



STARTING AN APPLICATION

1

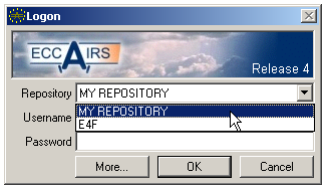


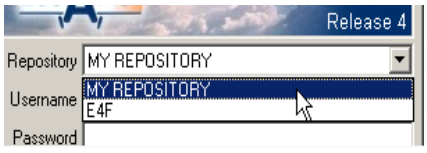
Let us have a look at how to run an ECCAIRS Application or Utility, for instance, the ECCAIRS Browser.

From the Windows **Start** button select
Programs → Eccairs 4 → Browser.

The system proposes a Logon window.

2

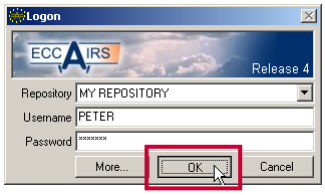




The user must logon by first choosing among the list of different repositories configured.

The **Repository** is a place where all the data (the occurrences) and all user specific settings related to security, access methods, database and application properties are stored and managed.

3



To complete the logon type in the **Username** and the **Password** that have been setup by the ECCAIRS system administrator and push the **OK** button, or type the RETURN key after the password.

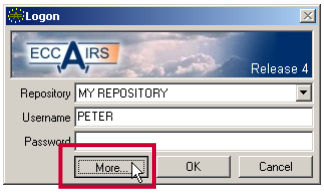
Once the user has successfully logged in the system, the Application main window shows up.

Should the list of Repositories be empty, then the user cannot logon.

To add a repositories follow the instructions on page 3-4 (i.e. turn next page).

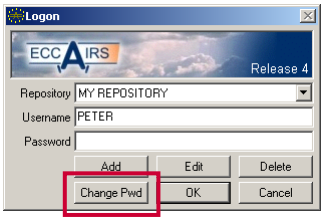
CHANGING THE LOGON PASSWORD

1



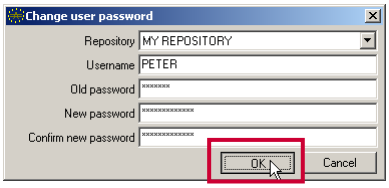
To change the user logon password, provided this function has been enabled for this user by the ECCAIRS Administrator, click on the More... button in the Logon form.

2



Three new buttons are displayed in the bottom of the dialog: click on the Change Pwd button.

3



In the Change user password dialog which shows up, type in the Old password, then the New password and repeat it in the Confirm new password field.

Click on the OK button to confirm. The Cancel button discards any change possibly made.

FINDING A REPOSITORY

1

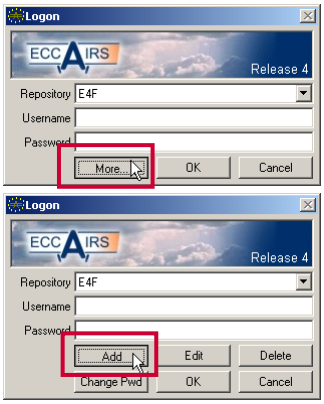
The Repository is a place where all the data (the occurrences) and all user specific settings related to security, access methods, database- and application properties are stored and managed.

To be able to use a database the ECCAIRS applications must access a suitable repository and therefore establish a link between the workstation and the Repository Server.

The repository and database server part of the ECCAIRS system may also be installed on the same computer. Any standalone system may also use a local default simplified repository (E4F) usable only to access local occurrence files.

Repositories are created and managed by the ECCAIRS system administrator designated (see ECCAIRS Software Installation Manual).

2

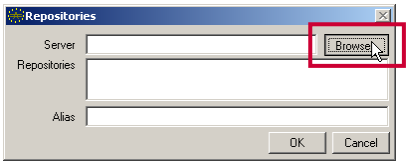


The link to the wanted repository on a Repository Server is established in a number of steps.

First click on the More... button in the Logon form.

Three new buttons are displayed in the bottom of the dialog: click on the Add... button.

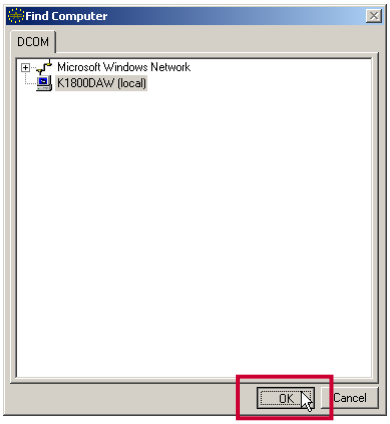
3



The Repositories dialog box requires the name of a Repository Server.

Either type in the Server field the name of the server (something in the form DOMAIN\SERVERNAME) or, much more conveniently click on the Browse... button.

4



The Find Computer browse box allows to browse the local network and select a repository server from the available networked computers.

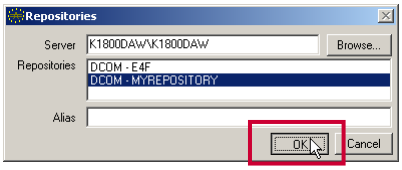
Once the computer hosting the wanted ECCAIRS server is selected click the OK button to confirm.

5

Once a valid Repository Server is selected, the ECCAIRS Browser will ask a security password and test the connection (ask your administrator for the password).

Click on OK to confirm: if the password is not correct, then the dialog is displayed again.

6



The Repositories dialog box is displayed again: this time select the wanted repository from the list of those available in the Repositories field and click OK to confirm.

The Logon dialog is displayed again: this time the newly added repository is available in the Repository drop-down list (MY REPOSITORY in the example shown).

Apart from its name, a repository may also be given an **Alias**.
An alias is mandatory when addressing repositories with the same name but hosted on different servers.

PART 2

THE ECCAIRS BROWSER

4 EXPLORING THE BROWSER

5 CUSTOMISING THE BROWSER

6 WORKING WITH THE LIST OF OCCURRENCES

7 WORKING WITH DATABASES

4 Exploring the Browser

The Browser at a glance

The ECCAIRS Browser is the application used to enter, modify, view and print occurrences (aircraft incidents and accidents).

After starting the ECCAIRS Browser (see page 3-2) its main window will show up.

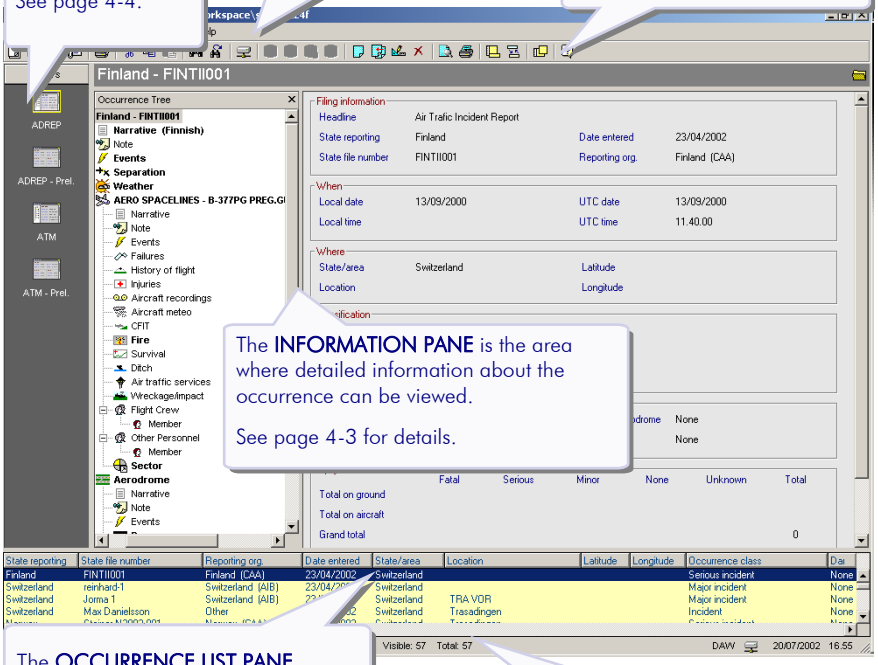
The **VIEWS PANE** selects a specific "view" for the data stored for each occurrence.

See page 4-4.

The **MENU BAR** menus and menu-items allows to access most of the functions in ECCAIRS Browser.
See page 4-2 for details.

The **TOOLBAR** offers a quick visual access to a set of commonly used functions in ECCAIRS Browser.

See page 4-7 for details.



The **INFORMATION PANE** is the area where detailed information about the occurrence can be viewed.

See page 4-3 for details.

The **OCCURRENCE LIST PANE** displays a list of either the results of a query to the database or the contents of an E4F (.E4f) file.

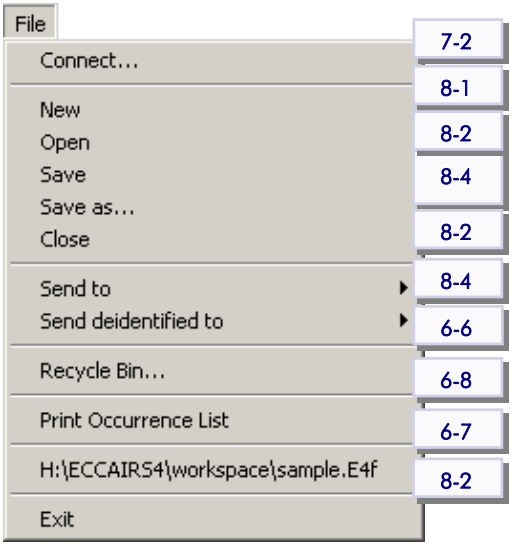
See page 4-8 for details.

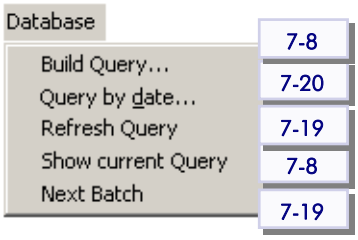
The **STATUS BAR** displays summary information on the current user, occurrences, time and database connection status.
See page 4-7 for details.

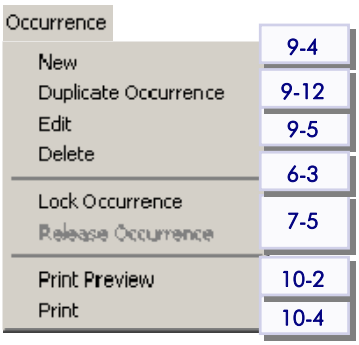
THE MENU BAR

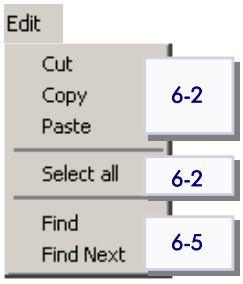
The Menu Bar hosts menus and menu-items used to access most of the functions available in ECCAIRS Browser.

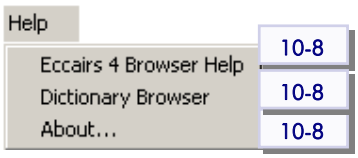
All the menu-items are displayed below, menu by menu.
The numbers reported side of each menu-items refer to the main manual page(s) where the corresponding function is illustrated.

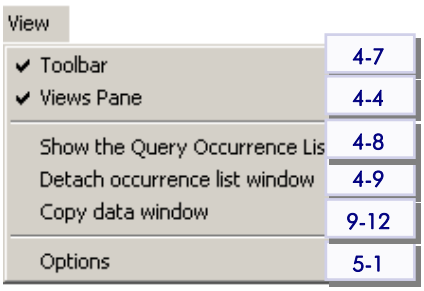










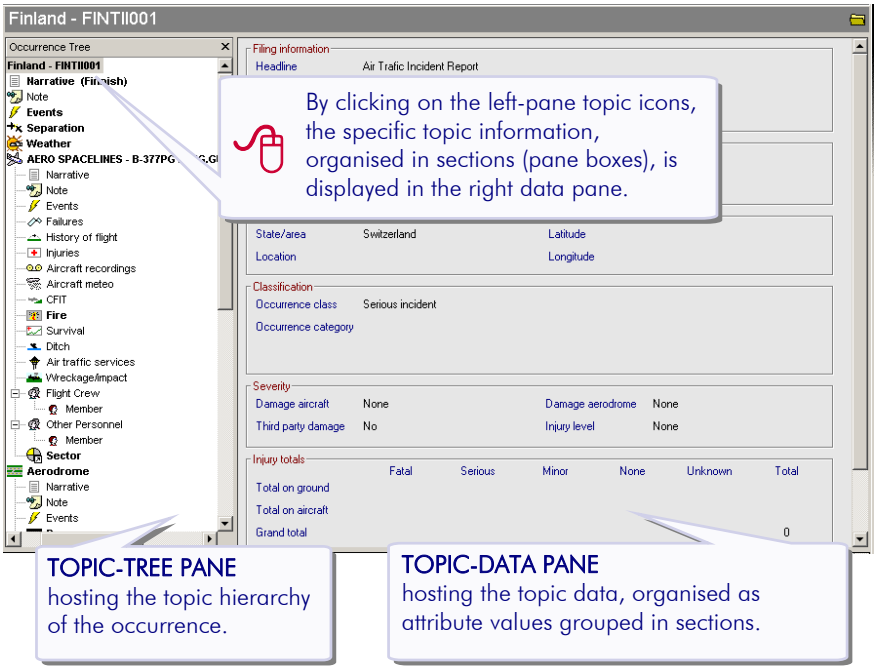


CHAPTER
4

THE INFORMATION PANE

The Information pane is the area where detailed information about the occurrence can be viewed.

Another version of the information pane is opened as a self-standing window when entering edit mode . This latter is editable so that topics and attribute values can be added or updated (see page 9-1).



The information is structured as a topic hierarchy, where each topic is represented by an icon on the left sub-pane.
Information related to and determined by any aircraft or ATS unit is located in the appropriate corresponding hierarchy-tree branch.

In the topic tree:

- ☑ Separate **aircraft branches** in the occurrence structure tree may be used when more aircrafts are involved in an occurrence. The same applies in case multiple ATS units are involved.
- ☑ Multiple **narratives** (i.e. using different languages) may exist and are displayed as multiple nodes in the occurrence tree.

Some other specific views use instead a simplified structure, where a sub-set of the information is condensed and shown in a single pane
(e.g. ADREP and ATM preliminary views).

By default all topic icons are shown. Non-empty topics are marked with their name in **bold**.

By setting the **Hide empty sections** option (see page 5-2) only icons whose topics contain any data are displayed.

THE VIEWS PANE

The VIEWS PANE hosts a number of possible "views" upon the data stored for each occurrence. A view reflects a particular way the data is observed.

The ECCAIRS Browser comes with four predefined views optimised for typical flight operations and ATM users:

- ☑ ADREP view
- ☑ ATM view
- ☑ ADREP preliminary view
- ☑ ATM preliminary view.

Custom views

For several reasons an organization using ECCAIRS might have the need to add to or replace the standard views.

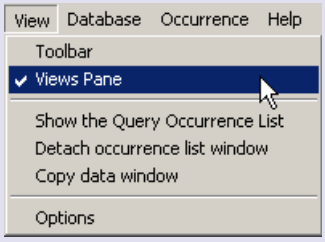
A Repository administrator has the possibility to do so using the Repository Manager application on the Repository Server machine. This means that a user might find in the ECCAIRS Browser's views pane additional or different views not described in the standard documentation.

These additional/different Views might contain a subset of the data available in the standard ADREP view and/or they might contain just the standard Sections organised in a different topic tree: i.e. they can be mapped into user-defined chapters following some basic guidelines.

Should any non-standard view be included in the ECCAIRS Browser, we suggest to ask the ECCAIRS administrator within your organization for specific details.

VIEWS PANE DISPLAY

Using the ***Views → Views Pane*** *menu-item the view pane can be toggled on (visible) and off. When the Views Pane is set visible a tick is displayed in front of the menu-item.*

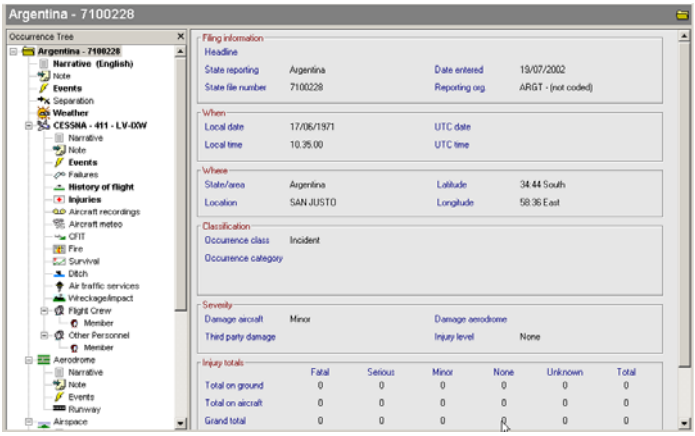


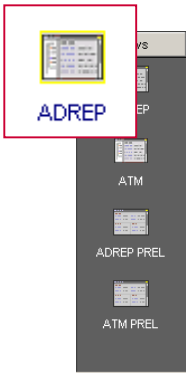
By default the Views Pane is visible.

CHAPTER 4

ADREP view

The ADREP view organises and displays the occurrence data according to the complete ICAO ADREP 2000 taxonomy.
The information pane is composed by a tree and a data display.

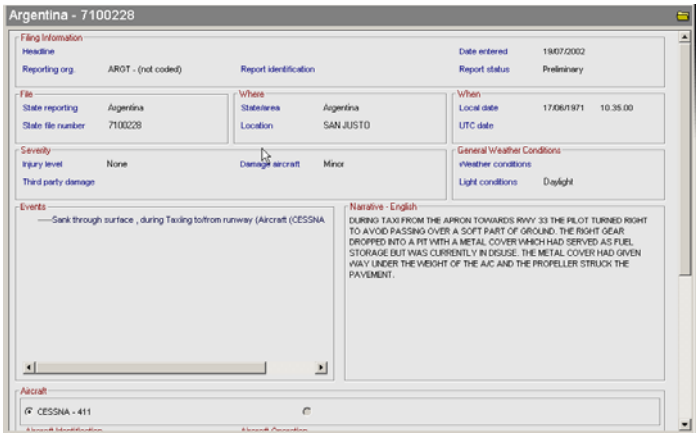




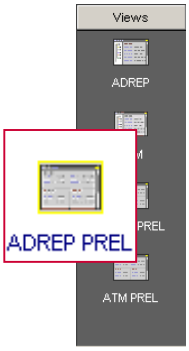
The ADREP view organises the data according to the complete ADREP 2000 taxonomy.

ADREP Preliminary view

The ADREP Preliminary view is a reduced and simple view, where the essential information is condensed and shown in a single pane, to be used for a quick kind of preliminary report focused on flight operation occurrences. The preliminary report to be produced using this view can be used to fill in the detailed report at a later time in the "full" ADREP view. The Occurrence Window Snapshot feature (see page 9-12) might be useful for this purpose.

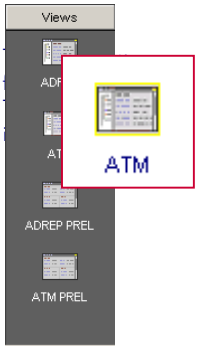


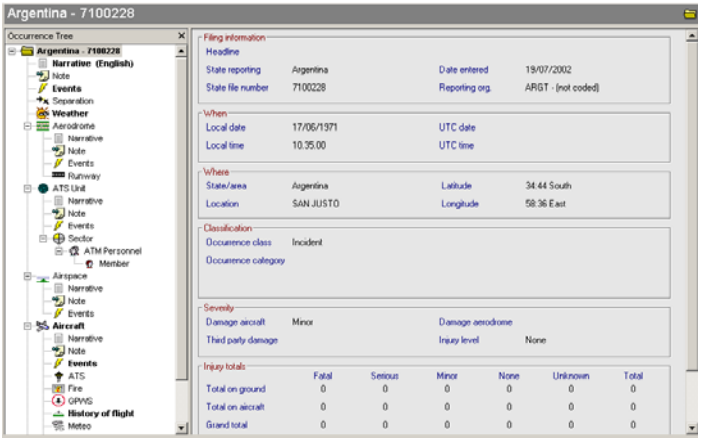
The ADREP Preliminary view is a quick way to fill a preliminary report focused on flight operations information.



ATM view

The ATM view focuses on the Air Traffic Management issues of the occurrence, using a compound tree & data display for the information pane.



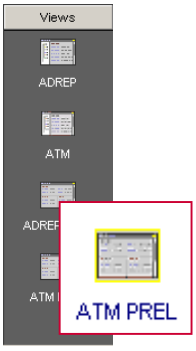


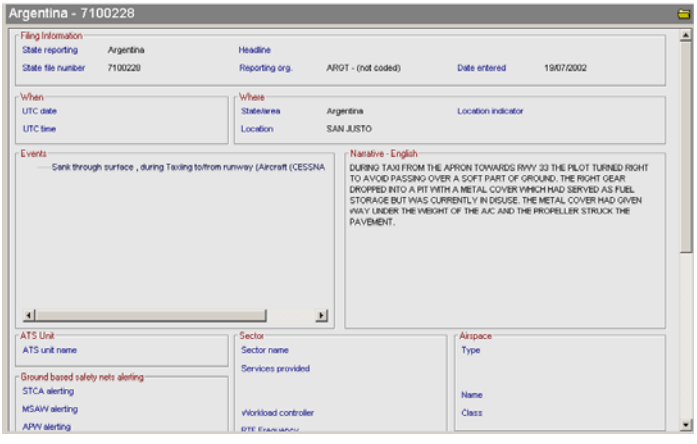
ATM Preliminary view

The ATM Preliminary view is a reduced and simple view focused on ATM-specific type of occurrences, with the information condensed and shown in a single pane.

The preliminary report produced using this view can be used later to fill in the detailed report at a later time in the "full" ATM view. The Occurrence Window Snapshot feature (see page 9-12) might also be useful for this purpose.

The ATM Preliminary view is a quick way to fill a preliminary report focused on ATM specific type of information.

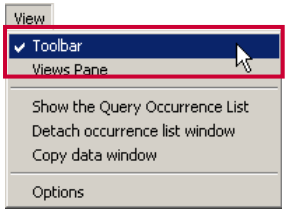




CHAPTER 4

The Toolbar

The Toolbar offers a quick visual access to a set of commonly used functions in ECCAIRS Browser. The usage of each icon-button will be illustrated in this manual when dealing with the functions involved.



Stopping the mouse pointer over the toolbar icons causes the display of a brief description of the actions-functions associated.

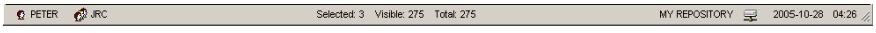
Using the **View → Toolbar** menu-item the toolbar can be toggled as visible (default choice) or invisible. A "tick" is displayed in front of the menu-item currently selected.

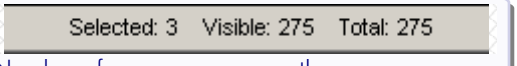
The Status Bar

The Status Bar displays current information on the ECCAIRS Browser status.

Current repository name, Database connection-icon and Current date and time

Current user and Current organisation.





Number of occurrences currently:
- selected
- visible
- total

If more than 500 occurrences result from a query the "query result" batch number will also be displayed.
This is because query results are handled by default in batches of 500 occurrences
(see page 7-19).

THE OCCURRENCE LIST PANE

The Occurrence List pane displays a list of either the results of a query to the database or the contents of an E4F file and can be used to browse, sort, search or print them. See page 6-1 for available functions on list of occurrences.

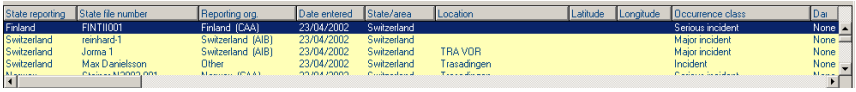
Clicking with the mouse on a row selects the corresponding occurrence and its data is then displayed in the occurrence pane above.

State reporting	State file number	Reporting org.	Date entered	State/area
Finland	FINTII001	Finland (CAA)	23/04/2002	Switzerland
Switzerland	reinhard-1	Switzerland (AIB)	23/04/2002	Switzerland
Switzerland	Jorma 1	Switzerland (AIB)	23/04/2002	Switzerland
Switzerland	Max Danielsson	Other	23/04/2002	Switzerland

Each occurrence in a row is displayed with a number of "relevant" attributes columns. The attributes are customisable (see page 5-4).

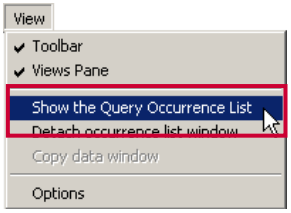
Clicking on the attribute column headers sorts the occurrence list accordingly. Clicking toggles between ascending and descending sorting. Columns are initially pre-sorted according to a customisable set of keys (see page 5-5).

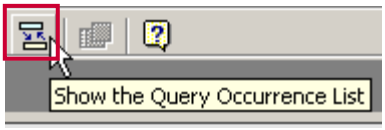
Occurrences from files or databases



State reporting	State file number	Reporting org	Date entered	State/area	Location	Latitude	Longitude	Occurrence class	Dai
Finland	FINTII001	Finland (CAA)	23/04/2002	Switzerland				Serious incident	None
Switzerland	reinhard-1	Switzerland (AIB)	23/04/2002	Switzerland				Major incident	None
Switzerland	Jorma 1	Switzerland (AIB)	23/04/2002	Switzerland	TRA VOR			Major incident	None
Switzerland	Max Danielsson	Other	23/04/2002	Switzerland	Trasadingen			Incident	None

The list above shows the occurrences included in the E4F file opened, if any. Switching to the database query results can be done via menu or toolbar.





When operating on E4F file occurrences the background colour of the list pane is yellow.

The list of occurrences resulting from the database query is displayed over a pale blue background.

The Query Occurrence List will be filled provided that previously:
(1) a database connection has been provided, and
(2) a query has been selected and executed and
(3) the query returned at least one occurrence.

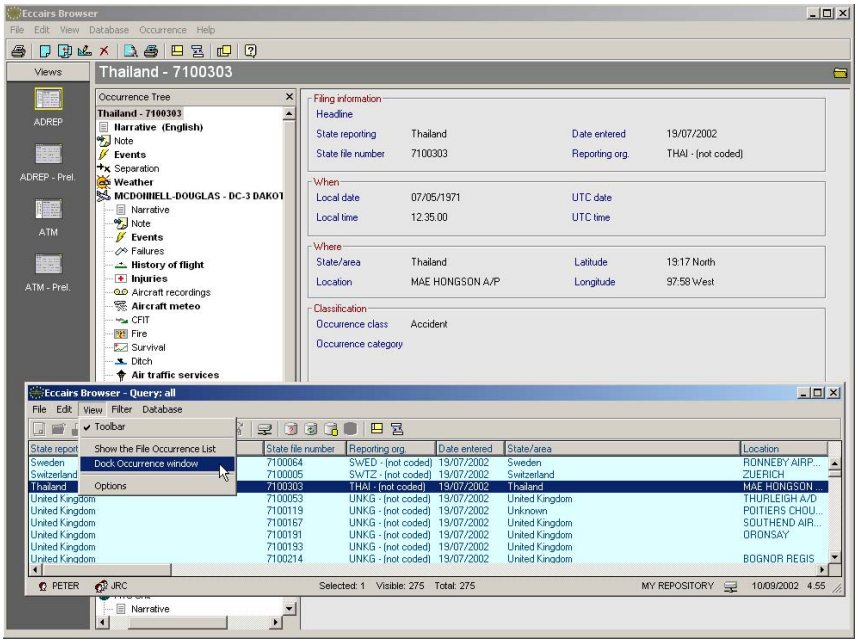
Operating on the occurrence list obtained from a database query or from an E4F file, is identical, apart two small details.

The first difference concerns the information related to locking of occurrences in the database when looking at the results of a query (see page 7-5).

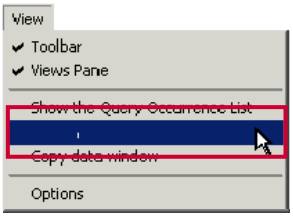
The second difference concerns the initial sort made on the occurrences, which is made only for the occurrence list from the database (see page 5-4).

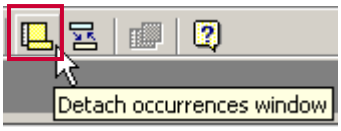
Occurrence List as a self-standing window

The list of occurrences is detachable and then becomes a completely self-standing window, toolbar inclusive.



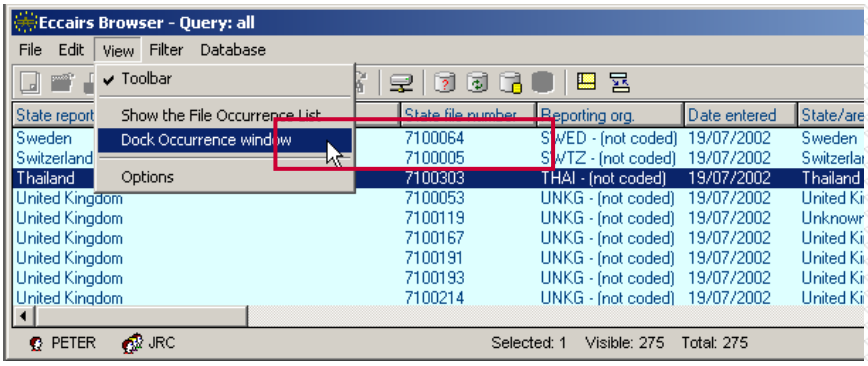
To detach the list of occurrences use the
View → Detach occurrence list window menu-item or the corresponding toolbar item in the main window.





The self-standing occurrence list window can be made as large as needed so that the scrolling list can cover up to the whole desktop allowing easier browsing of long lists of occurrences.

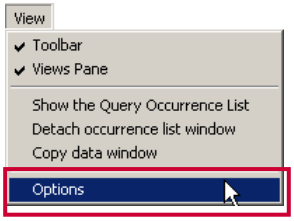
It also has its own menu and toolbars with functions directly related to the occurrence list (see page 6-1 and following) and database query management (see page 7-1 and following).



The detached occurrence list can be re-linked to the main window by using the corresponding menu or toolbar items.

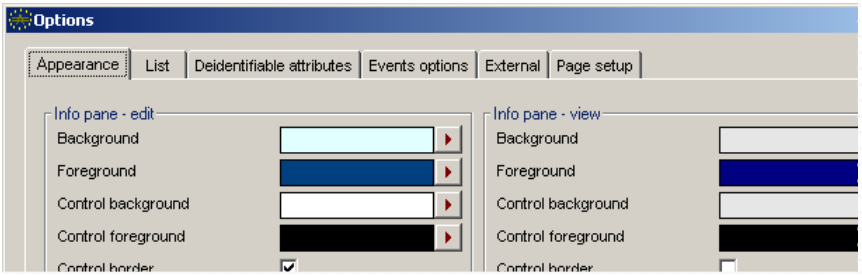
5 CUSTOMISING THE BROWSER

USER-SETTABLE OPTIONS



The user can control a number of options of the ECCAIRS Browser by selecting View → Options from the menu bar.

An Options dialog window is displayed.



Six different option panes are available through the upper tabs:

- ☑ APPEARANCE tab-pane, which groups colour options used in all the ECCAIRS Browser window panes and some other display options
- ☑ LIST tab-pane, which allows to select attributes displayed in the columns of the occurrence list pane
- ☑ DEIDENTIFIABLE ATTRIBUTES tab-pane, which allows to specify the attributes to be omitted when saving de-identified occurrences
- ☑ EVENTS OPTIONS tab-pane, which allows to select the display a short or detailed description for attributes and values in the event topic
- ☑ EXTERNAL tab-pane, which allows to specify parameters for interfacing the ECCAIRS Browser with external proprietary modules and applications
- ☑ PAGE SETUP tab-pane, which allows to specify the default printer and printing margins.

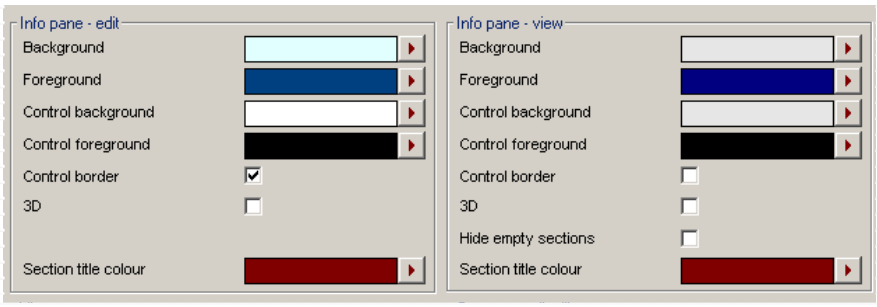
Some of the menu-items and options (including the View → Options menu-item itself) might be disabled or not existing depending on the configuration set by the ECCAIRS Administrator in the repository manager.

APPEARANCE (DISPLAY) OPTIONS

The Appearance tab-pane controls the display options, grouped into sections related to different display windows or panes.

Information and Tree pane options

The ECCAIRS Browser uses different information panes for its two operating modes: Edit mode and View mode. So their display options are separated accordingly.



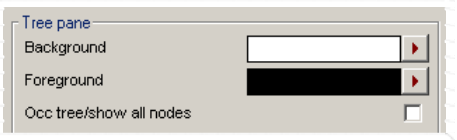
Options for the Info pane, separated for Edit and View mode, include colour choice for:

- ☑ Background/Foreground
- ☑ Control Background /Foreground
- ☑ Section Title

check-boxes to enable/disable:

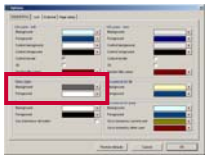
- ☑ Control Border
- ☑ 3D-style display
- ☑ Hide empty sections

Options for the Tree pane include:



- ☑ colour choice for its Background and Foreground.
- ☑ There is also a check-box to select the display of either all the possible topics in an occurrence or (if not checked) only those containing some information.

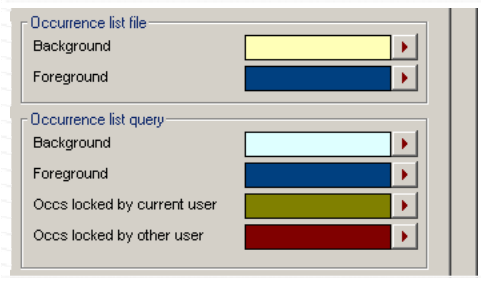
Views pane options



Options for the Views pane include:

- ☑ colour choice for its Background and Foreground.

Occurrence List Pane options



The Occurrence List pane may display either occurrences taken from an E4F file or selected from a database specified by a repository.
Their display options are separated accordingly.

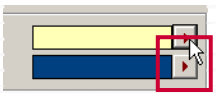
Occurrence List File pane options:

- ☑ Background colour
- ☑ Foreground colour

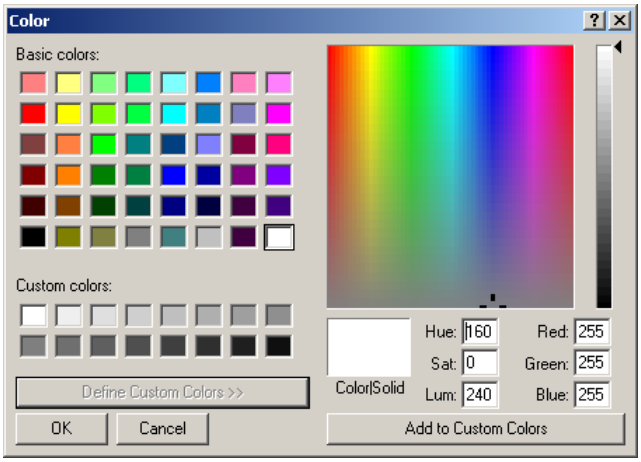
Occurrence List Query pane (database mode) options:

- ☑ Background colour
- ☑ Foreground colour
- ☑ Locked Occurrence Background
- ☑ Locked Occurrence Foreground

Specifying colours



Clicking on any of the colour selectors displays a **Color** control window.

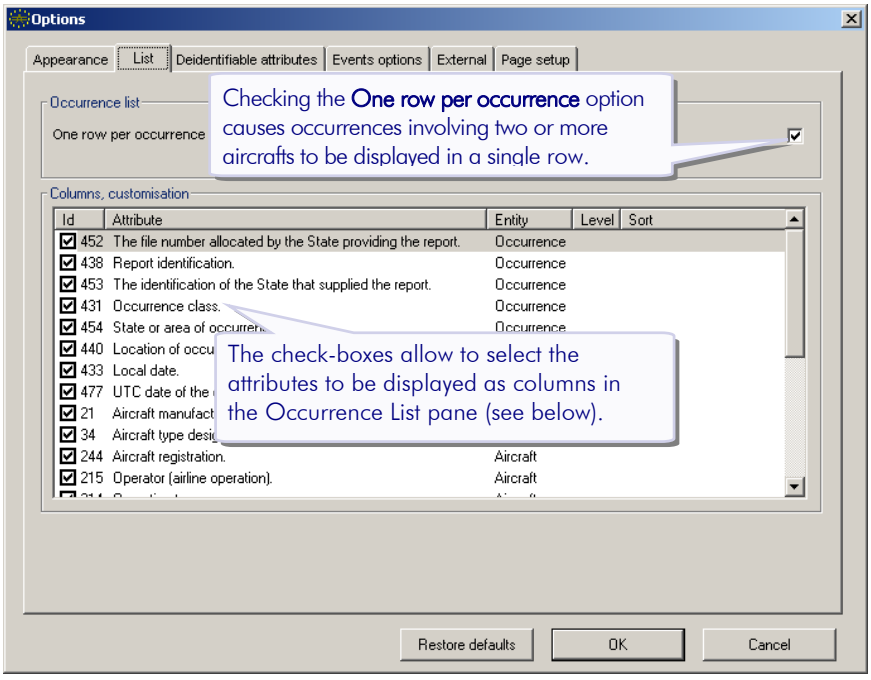


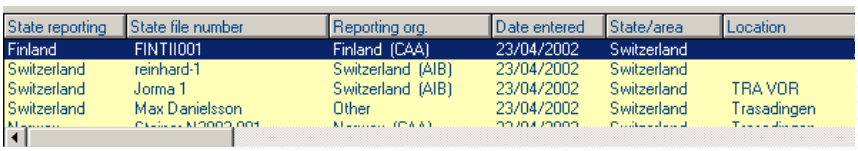
In the Color control window it is possible to choose one of the **Basic colours** or define specific colours to be added to the **Custom color** palette.

Clicking **OK** confirms and applies the choice.

Occurrence List attributes

The **List tab-pane** options allow to select which attributes are displayed as columns in the Occurrence List pane.





State reporting	State file number	Reporting org.	Date entered	State/area	Location
Finland	FINTII001	Finland (CAA)	23/04/2002	Switzerland	
Switzerland	reinhard-1	Switzerland (AIB)	23/04/2002	Switzerland	
Switzerland	Jorma 1	Switzerland (AIB)	23/04/2002	Switzerland	TRA VOR
Switzerland	Max Danielsson	Other	23/04/2002	Switzerland	Trasadingen

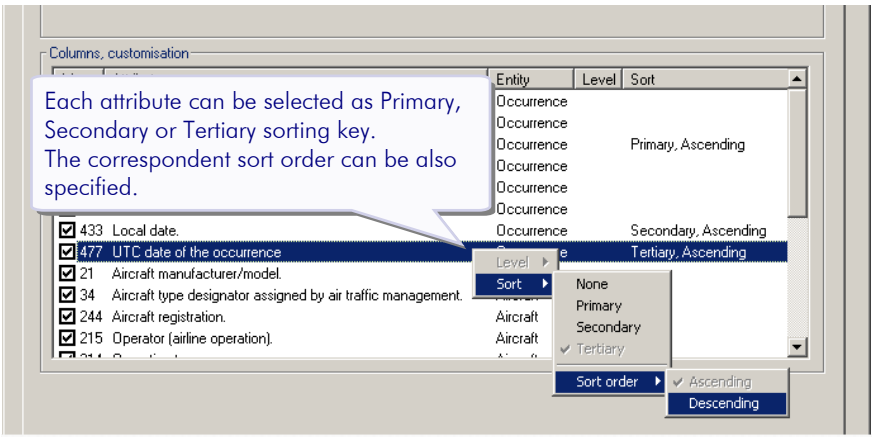
The list shown is the default list after installation and initial configuration. But it might actually be much smaller, or even not modifiable by the users. The attributes available are determined by the ECCAIRS Administrator.

Here is the list of the attributes (see also side note)which can be selected as columns in the Occurrence List pane:

- ✓ State file number
- ✓ Report identification
- ✓ State reporting
- ✓ Occurrence class
- ✓ State/area
- ✓ Location
- ✓ Local date
- ✓ UTC date
- ✓ Manufacturer/model
- ✓ Type designator
- ✓ Aircraft registration
- ✓ Operator
- ✓ Operation type
- ✓ Call sign
- ✓ Injury level
- ✓ Fatal, passengers
- ✓ Fatal, crew total
- ✓ Total fatalities
- ✓ Damage Aircraft
- ✓ Report status
- ✓ Flight phase
- ✓ Reporting org.
- ✓ Report moderator

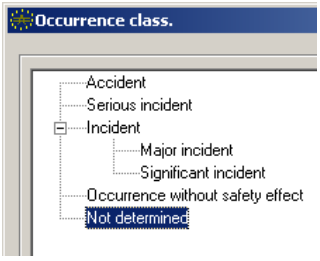
Defining the initial sort order of occurrences

The user can specify the attributes to be used as sorting keys (three at most) in the initial display of the Occurrence List pane.

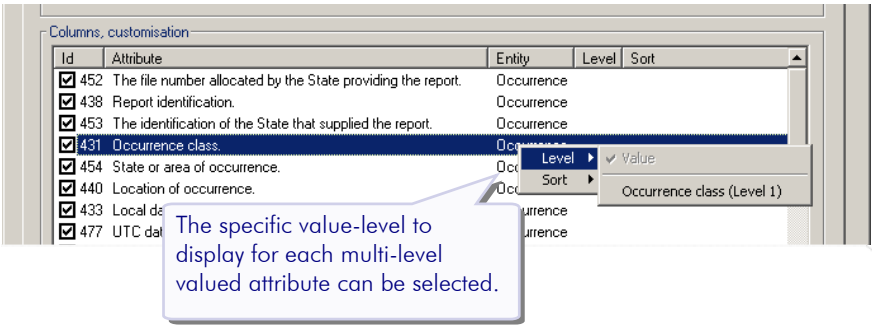


Selecting display-level of multi-level attribute values

Some of the attributes have values specified through a tree-hierarchy (e.g. the Occurrence class attribute shown here on the left). So there might be different levels of value specifications.

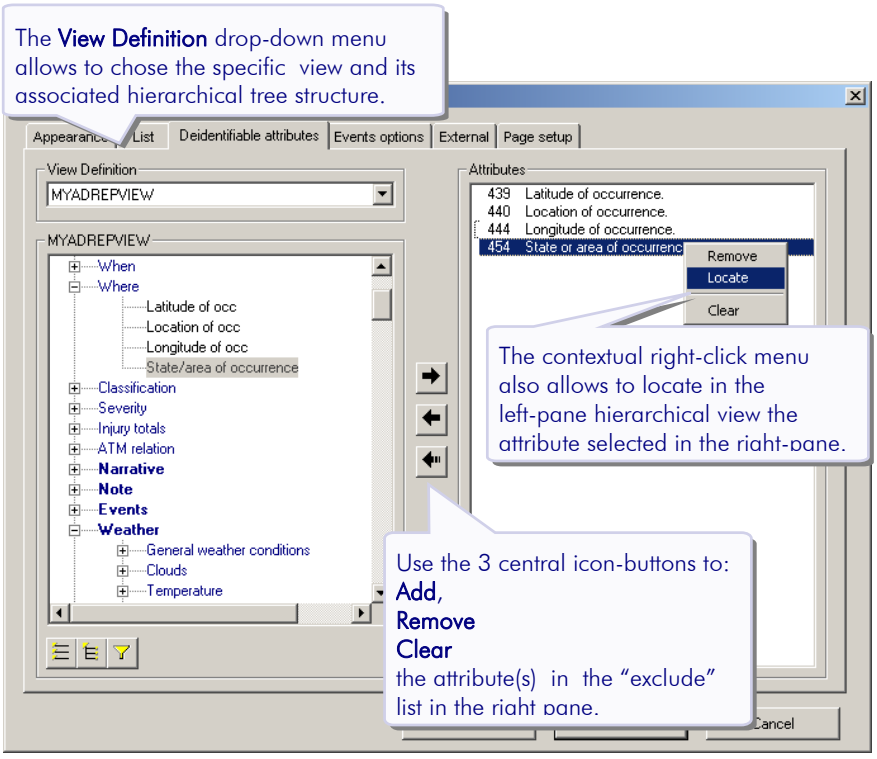


By default the Occurrence list pane displays the most detailed (i.e. lowest level) attribute value specified. It is however possible to define any specific attribute-value level to display, by right-clicking within the column customisation pane after selecting an attribute.

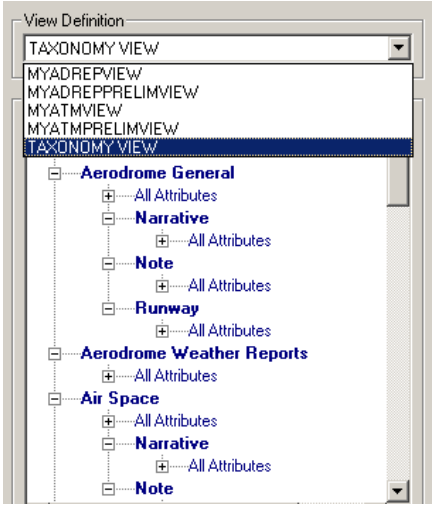


DEIDENTIFIABLE ATTIBUTES

The **Deidentifiable attributes tab-pane** allows to specify the attributes to be excluded when saving de-identified occurrences (see page 6-6).



Most of the attributes in clued in **Filing information** section are automatically excluded. They are greyed out in the left pane.



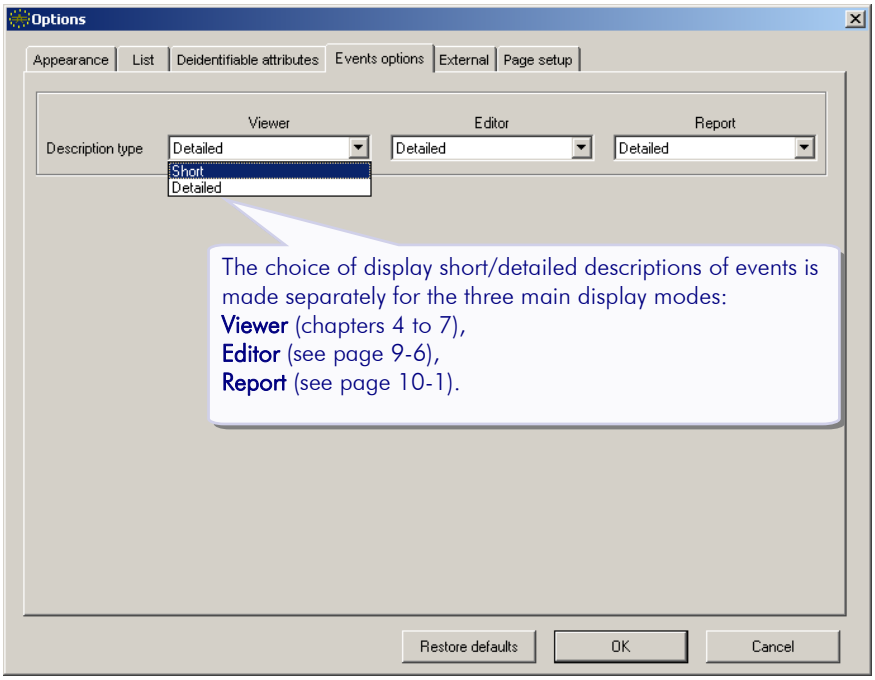
The **View Definition** drop-down menu includes also the **TAXONOMY VIEW** item. This displays a list of all the topics and related attributes occurrence within the ECCAIRS own taxonomy.

The ADREP, ATM and any other possible custom view in ECCAIRS is build out of sections composed with the attributes included in the ECCAIRS own taxonomy.

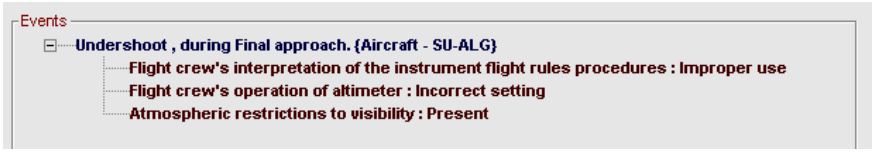
CHAPTER 5

EVENTS OPTIONS

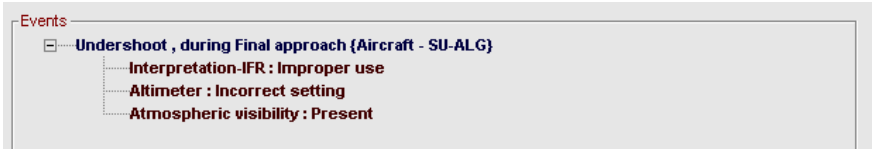
The **Events options tab-pane** allows to select the display a short or detailed description for attributes and values used within the events topic. By default the **Detailed** description is selected.



Selecting a **Detailed** description for attributes and values in the events topic will produce descriptions like:



Selecting a **Short** description will instead produce descriptions like:

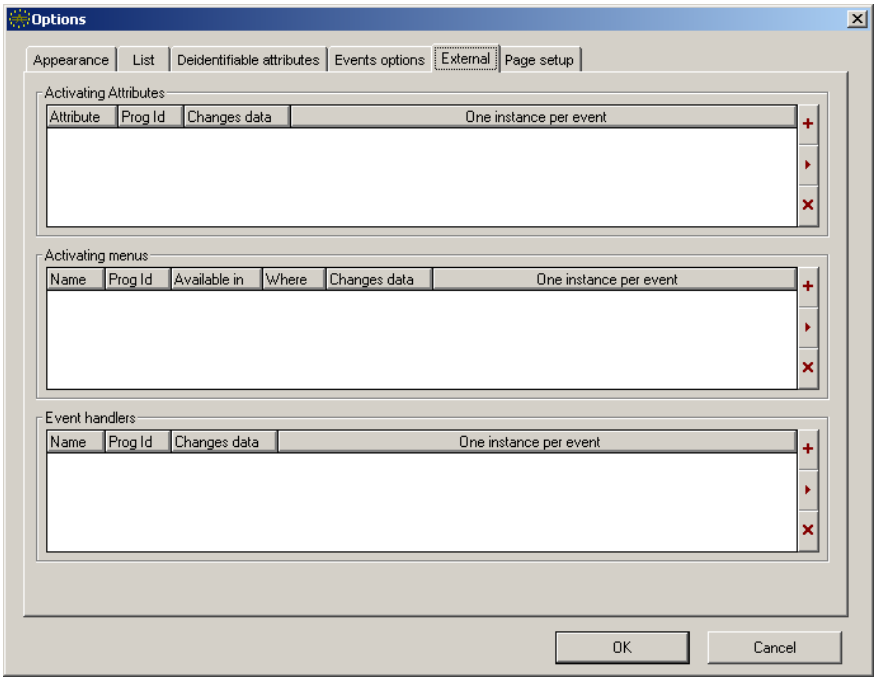


The complete set of events attribute and values and related short and detailed descriptions can be looked-up using the Dictionary Browser (see page 17-1).

EXTERNAL-API PARAMETERS

The ECCAIRS Browser can interface in various ways to external, proprietary software modules and applications.

On this form the user can define which programs to activate when attributes are changed, when certain additional menu-items are selected and when certain events take place.



Depending on the specific repository configuration set, the editing of external interface parameters could be available only to the administrator on the server system.

MORE INFORMATION ON ECCAIRS BROWSER API

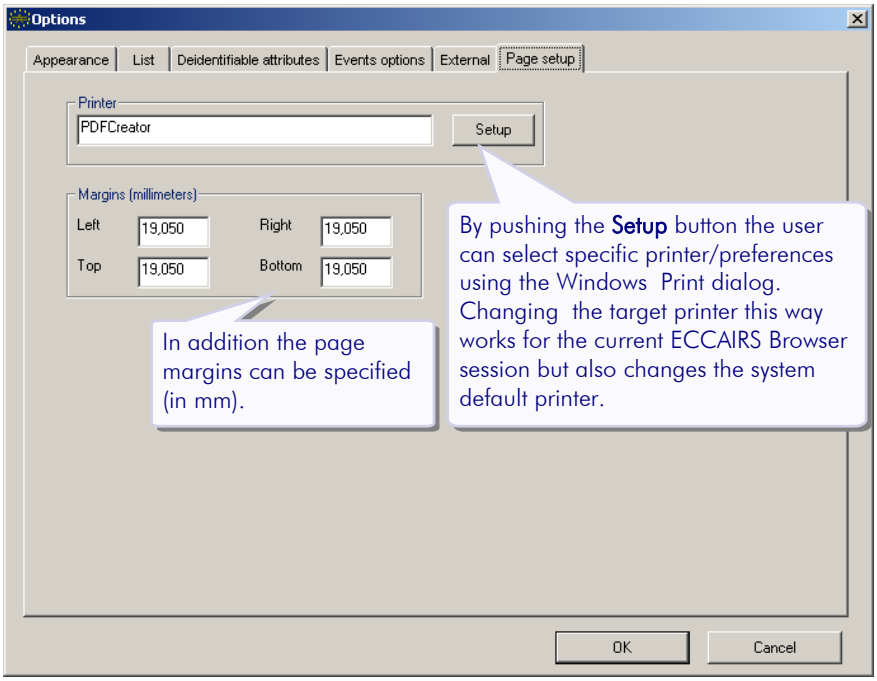
A detailed description on the use of these API functions can be obtained from your ECCAIRS administrator.

The ECCAIRS 4 Browser API white paper is available on the support section of the ECCAIRS web site (http://eccairs-www.jrc.it).

PAGE PRINTING SETUP

All print output in the ECCAIRS Browser (i.e. File → Print Occurrence List and Occurrence → Print) is normally directed to the default system printer, i.e. the one set either via the Windows Control Panel Printer item or via START →Setting → Printer Windows menu selection.

Whatever the default printer is, through the Page Setup options tab-pane a specific printer can be chosen for ECCAIRS Browser.



Confirm your ECCAIRS Browser printer choice with the OK button or discard it pushing the Cancel button.

6 Working with the list of occurrences

Functions available

There are a number of functions operating on the list of occurrences.

State file number	Report identification	State reporting	Occurrence class	State/are
7100119	003/73	United Kingdom	Accident	Unknown
7100125		Yugoslavia Federal Republic of (Serbia and Montenegro)	Accident	Yugoslav
7100220	008/72	United Kingdom	Accident	United Ki
7101009	1 0002	United States	Accident	United St
7101010	1 0003	United States	Accident	United St
7101011	1 0004	United States	Accident	United St
7101013	1 0006	United States	Accident	United St
7101053	3 0001	United States	Accident	United St
7101054	3 0002	United States	Accident	United St

PETER JRC Selected: 0 Visible: 40 Total: 40

This chapter deals with the following functions on lists of occurrences:

- ☑ Editing the list of occurrences on page 6-2
- ☑ Deleting occurrences on page 6-3
- ☑ Selecting and Filtering occurrences on page 6-4
- ☑ Searching for occurrences on page 6-5
- ☑ Saving Selected occurrences on page 6-5
- ☑ Saving de-identified occurrences on page 6-6
- ☑ Printing lists of occurrences on page 6-7
- ☑ Recycle Bin hosting deleted occurrences on page 6-8.

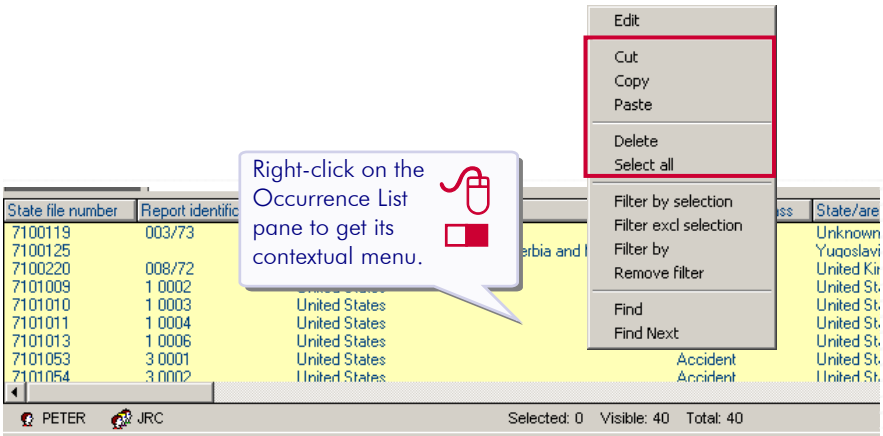
Other functions are introduced in different chapters of this manual:

- ☑ Display File or Query Occurrence on page 4-8
- ☑ Detach Occurrence List pane on page 4-8
- ☑ Saving occurrences in compressed format on page 8-5.

Note that the occurrences listed in the Occurrence List pane may come either from an E4F file (page 8-1) or from a query to a database (page 7-1).

EDITING THE LIST OF OCCURRENCES

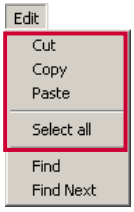
The contextual menu offers the standard editing tools for the list of occurrences: "Right-click menu" → Cut, Copy, Paste and Delete.



Selecting is done in the standard way: i.e. using the mouse, also with [Ctrl] and [Shift] keys for multiple (not)/contiguous selections.

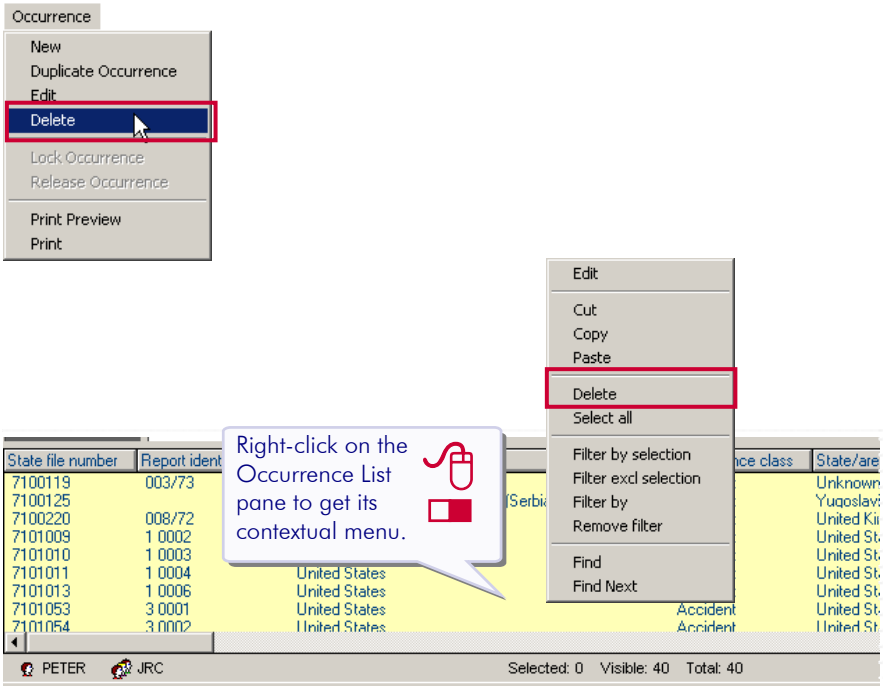
The selection of all the occurrences in the list pane can be performed in one go through either "Right-click menu" → Select all or the corresponding item in the Edit menu.

Almost all these functions can be invoked also from the Edit menu in the menu bar.



DELETING OCCURRENCES

Deleting the selected occurrence(s) can be performed either by selecting **Occurrence → Delete** in the menu bar or **"Right-click menu" → Delete** within the Occurrence List pane.

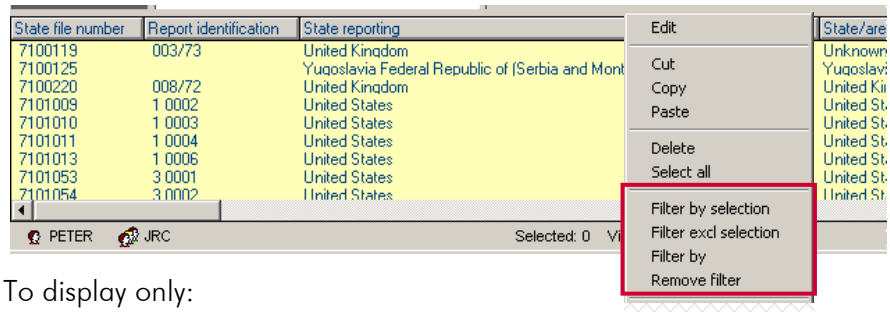


The occurrence(s) is/are not actually deleted but are moved into the Occurrence Recycle Bin, so that they can be recovered if needed (see page 6-8). At least this is the default behaviour for the Browser, unless it is intentionally disabled (see page 6-8).

FILTERING OCCURRENCES

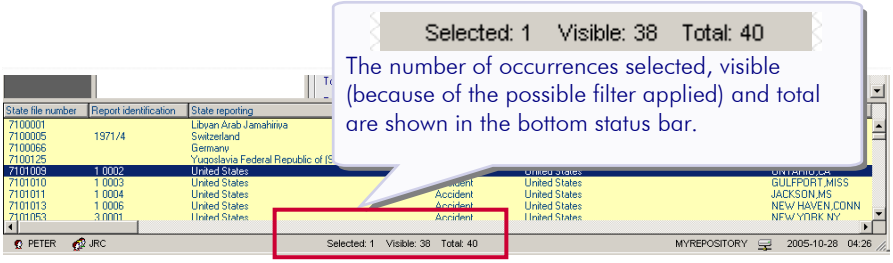
Occurrences in the Occurrence List pane can be filtered, i.e. only those satisfying some criteria will be displayed.

This is done through the contextual menu (**Right-click menu**), which is invoked by right-clicking on an occurrence in the Occurrence List pane.



To display only:

- ☑ Occurrences with the same/different attribute value as a reference one.
  Click on an **attribute column containing the reference value** and choose the **"Right-click menu" → Filter by selection** menu-item. Conversely **"Right-click menu" → Filter excl selection** displays occurrences with attribute values different from the reference one.
- ☑ Occurrences possessing a specific attribute value, without referring to any attribute reference value in the list pane.
  First click **on any item of the attribute column** wanted, then select **"Right-click menu" → Filter by** and specify the attribute.
- ☑ All occurrences: i.e. regain full visibility of the unfiltered occurrences. Select **"Right-click menu" → Remove filter**.

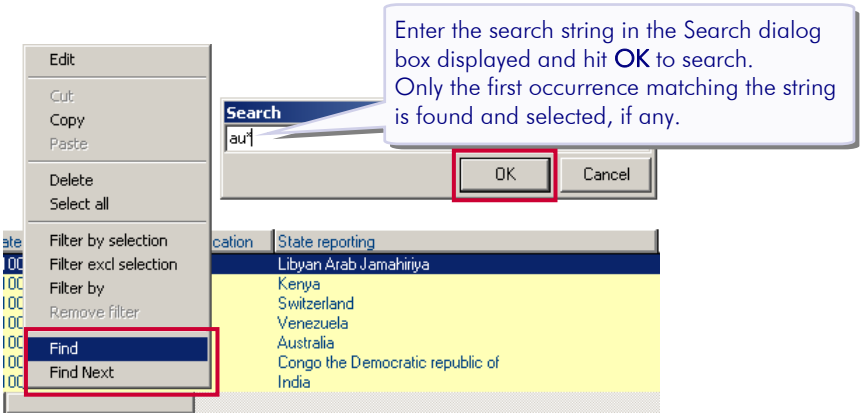


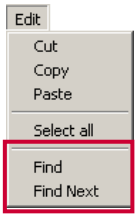
CHAPTER 6

SEARCHING FOR OCCURRENCES

To search and select an occurrence containing a specific string select:

- ☑ **Edit → Find**, from the menu bar, or
- ☑ **"Right-click menu" → Find,** in the Occurrence List pane.



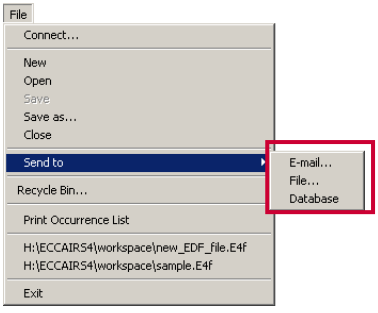


To find and select the next matching occurrence, use:

- ☑ **Edit → Find Next** from the menu bar, or
- ☑ **"Right-click menu" → Find Next**, in the Occurrence List pane.

SAVING SELECTED OCCURRENCES

It is possible to send selected occurrences, either to an E-Mail address, to an E4F file or to a database.



To do this, select the required occurrences and select **File → Send to** menu-item, and the target in the sub-menu:

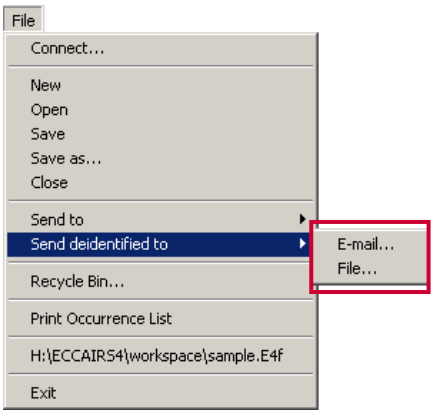
- ☑ **E-mail...** (see page 10-5)
- ☑ **File ...**
- ☑ **Database** (see page 7-4).

If **File** is selected, a standard Windows browse dialog is displayed to choose the target file and folder. The file can also be saved in compressed format (see page 8-5).

Refer to page 8-1 for details on E4F files.

SAVING DE-IDENTIFIED OCCURRENCES

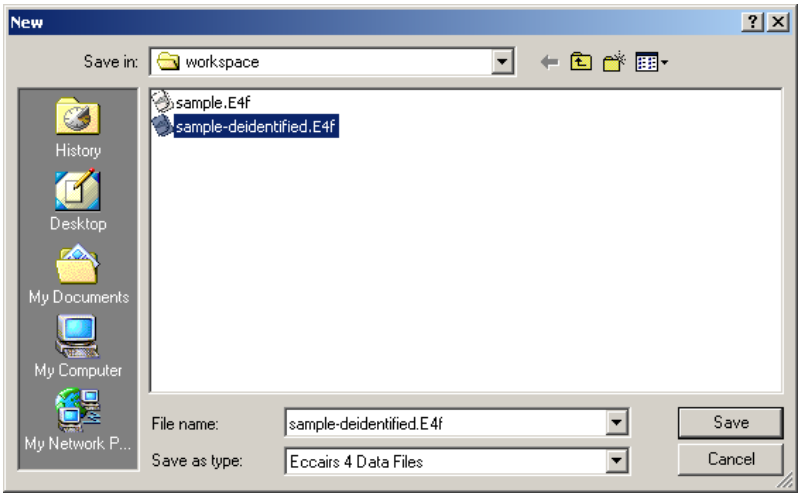
File → Send deidentified to menu-item allows to export de-identified occurrences into a new E4F file.
This means that a number of specific export attributes will be left out during the save phase.



The selected occurrences, properly de-identified, can be saved in different places, according to the specific the sub-menu-item selected:

- ☑ E-mail...
  (see page 10-5 for details)
- ☑ File ...

In case File is selected, a standard Windows browse dialog is displayed to choose the target file and folder. The file can also be saved in compressed format (see page 8-5).



The attributes to be excluded for de-identification are set in the View → Options menu-item, Deidentifiable attributes tab-pane, described on page 5-6.

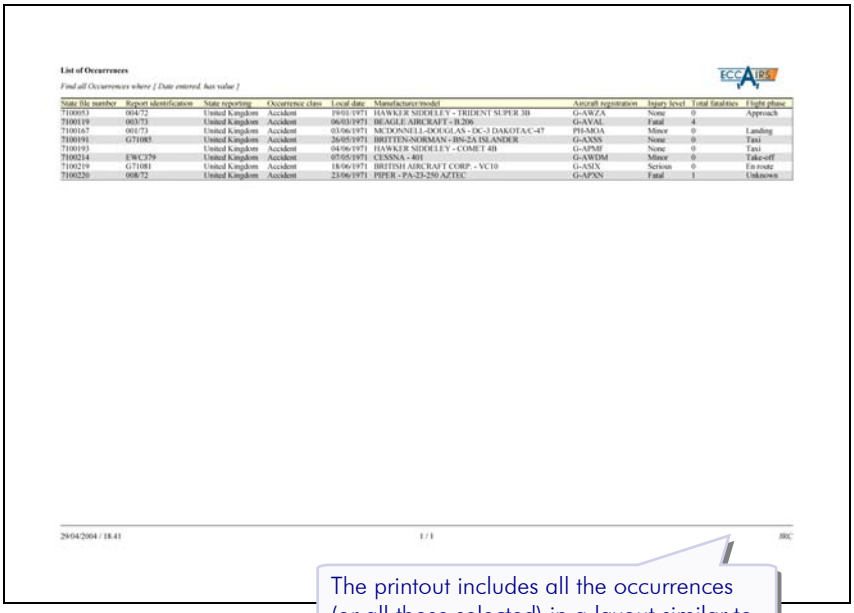
CHAPTER 6

PRINTING LISTS OF OCCURRENCES

The menu bar item File → Print Occurrence List allows to print the list of either:

- ☑ The selected occurrences
- ☑ The whole of occurrence list, if no occurrences are selected in the Occurrence List pane.

The standard Windows print dialog window is invoked so that, even if the default ECCAIRS Browser printer is proposed as the pre-selected choice, any other printer can also be selected.



The printout includes all the occurrences (or all those selected) in a layout similar to the occurrence list itself.

Each occurrence gets printed with its main attributes, i.e. those listed in the first columns of the Occurrence List pane.

The choice of attributes for columns, to be both displayed and printed, is customisable (see page 5-4).

If there are too many attributes selected, some of them will not be printed, because of the limited print line length available.

OCCURRENCES RECYCLE BIN

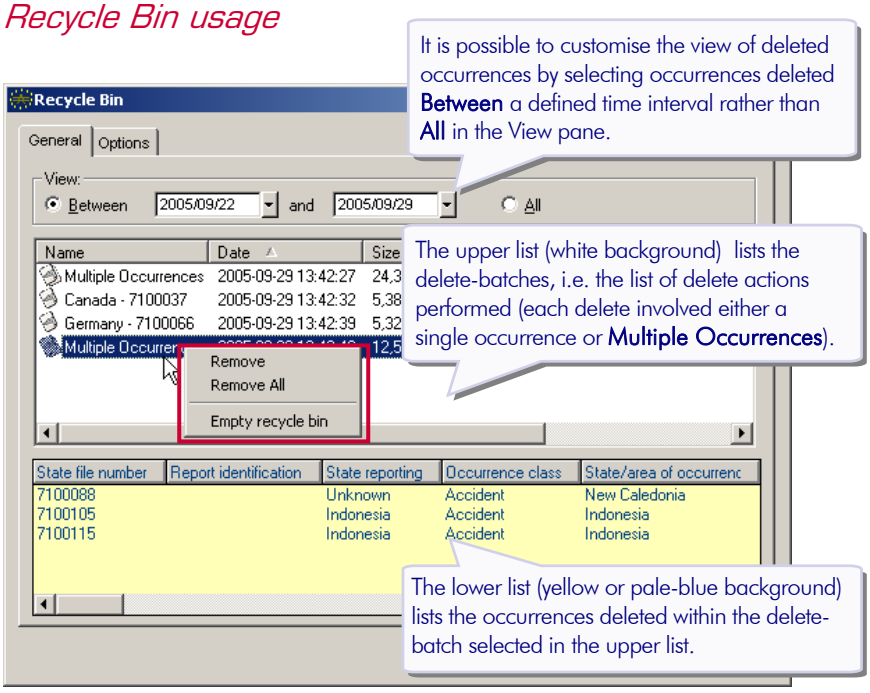
Deleted occurrences are automatically stored in the Recycle Bin (see side note). In case of need, it is possible to restore occurrences in the currently open file or export them in a new E4F file.

To open the Recycle Bin select the **File → Recycle Bin** menu-item. This will display the General tab of the Recycle Bin dialog with the list of occurrences that have been deleted, organised in delete batches.

The Recycle Bin is enabled by default within ECCAIRS Browser.

However it can be disabled and re-enabled within the Recycle bin dialog Options tab.

Recycle Bin usage



Removing occurrences from the Recycle Bin, with the mouse over the upper list:

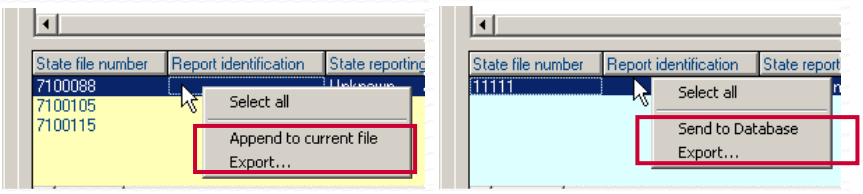
- ☑ **"Right-click menu" → Remove** removes the selected occurrences-delete batches.
- ☑ **"Right-click menu" → Remove All** removes all the occurrence-delete batches listed in the upper list.
- ☑ **"Right-click menu" → Empty recycle bin** removes all the delete-occurrence batches, even those which are not listed in the upper list because out of the date-range view-filter possibly set.

Clicking on a specific delete-batch in the upper list causes the related delete-batch occurrence(s) data to show up in the lower list.

Both the delete-batches in the upper list and the delete-batch occurrences in the lower list can be sorted by clicking onto the column headers.

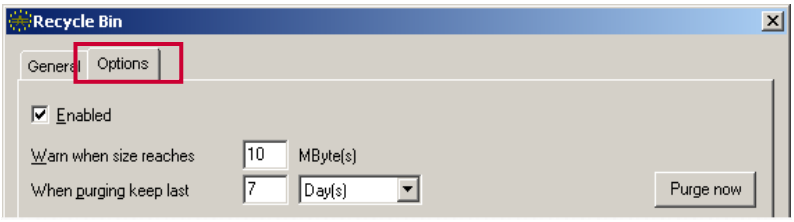
To restore selected occurrence(s), select in the lower pane either:

- ☑ "Right-click menu" → Append to current file, if the occurrence was deleted from the currently open E4F file, or "Right-click menu" → Send to Database, if the occurrence was deleted from the currently open database
- ☑ "Right-click menu" → Export, to export them in a new E4F file.



Recycle Bin usage

The Recycle Bin behaviour is customisable through its Options tab.



- ☑ The Warn when size reaches field allows to define a threshold, expressed in MByte(s), which will trigger a warning message to the user, prompting her/him to "purge the Recycle Bin".
- ☑ The When purging keep last field specifies the time-range of "last-deleted" occurrences to be preserved when purging the Recycle Bin.
- ☑ The Purge now button purges the Recycle Bin on user-demand.
- ☑ The Enabled check-box allows to disable/enable The Recycle Bin. The Recycle Bin is enabled by default.

7 Working with databases

Overview

The ECCAIRS Browser can both work on occurrences stored into databases or files. This chapter deals with ECCAIRS Browser operation on databases.

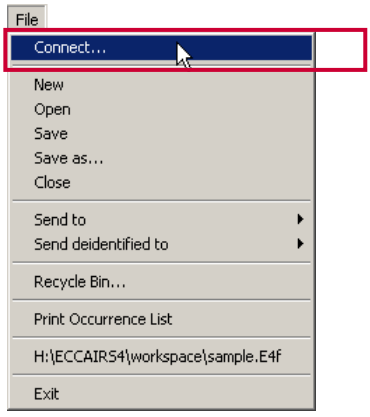
The first part is about basic operations needed to deal with databases, i.e. connecting to the database, locking and unlocking of occurrences (to manage concurrent editing access to the same occurrence) and saving occurrences into the database.

The second half of this chapter is about the core database access method: the query and its related tool, the Query Builder. The ECCAIRS Query Builder is an integrated tool where queries and query libraries are created, edited and managed. It provides the user facilities to build queries without any need to be a database expert.

The ECCAIRS Query Builder, described here in detail for ECCAIRS Browser application, is also used in other ECCAIRS applications and utilities which need to modify, create or execute queries on the database.

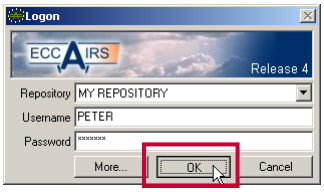
CONNECTING TO A DATABASE REPOSITORY

1



Select **File → Connect...** from the menu bar or push the corresponding icon-button in the toolbar.

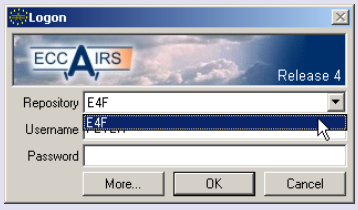
2



To logon:

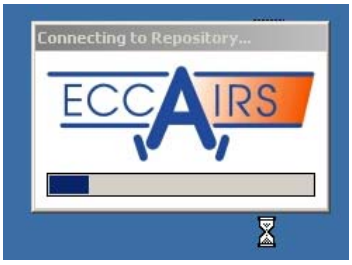
- ☑ Choose among the list of configured **repositories**
- ☑ Enter the **Username** and the **Password** that have been setup by the ECCAIRS system administrator
- ☑ Click on **OK** to confirm.

WHAT IF THE DATABASE REPOSITORY IS NOT LISTED ?



*If the database repository is known to exists (see below) but it is not listed in the repository drop-down list of the logon dialog, refer to "**Finding a Repository**" on page 3-3 to add it.*
*A specific database repository actually exists if it has been created and configured on a repository server by the ECCAIRS system administrator. Note that the repository **E4F** does not support database access. The E4F repository is pre-defined by default in the Repository Manager and your ECCAIRS system administrator might make it available to the users.*

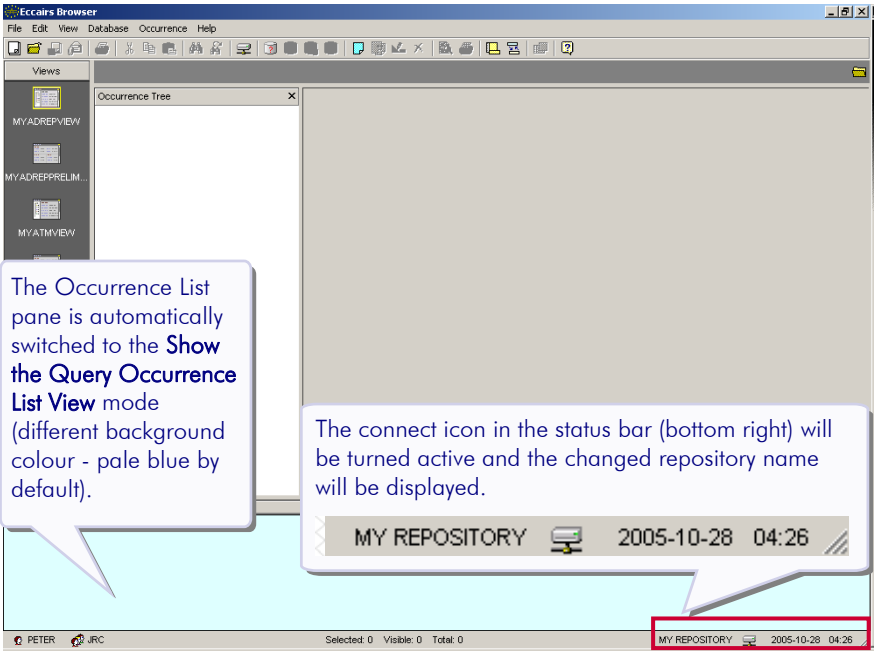
3



For a short time a splash screen may be displayed while the connection is being established.

When either the main window is displayed (if connecting at start-up), or the control is released to the ECCAIRS Browser main window (when switching from one repository to another) the system is ready to start working with the database.

4



The connection with the repository in use is automatically closed either by connecting to another repository (**File → Connect ...** function) or when closing the ECCAIRS Browser (**File → Exit** menu-item).

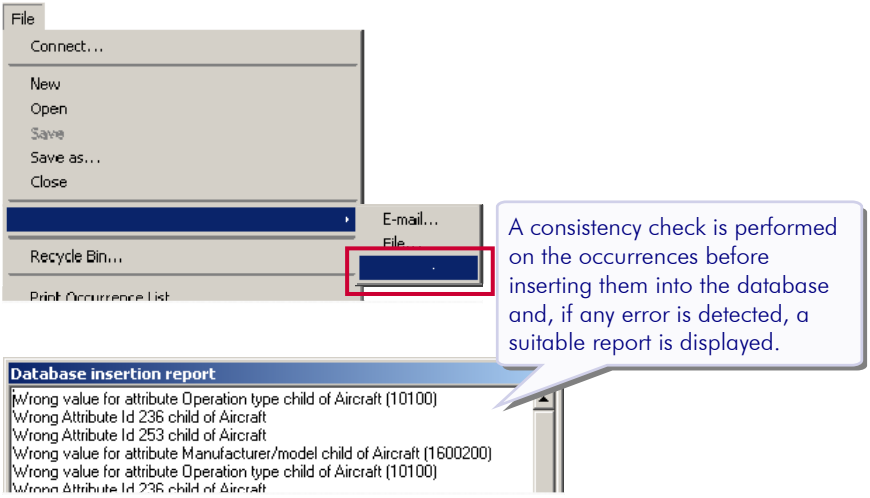
Connecting to a database does not automatically display occurrences.

To extract/list information into the occurrence list pane a query must be created and executed (see page 7-6 and following).

SAVING OCCURRENCES INTO DATABASES

Importing occurrences into the database is achieved most conveniently using the **E4F Loader** (see page 16-1), a stand-alone ECCAIRS utility. The E4F Loader offers the most suitable options and capabilities for importing occurrences into the database.

However, it is also possible to use the ECCAIRS Browser to save occurrences selected in the Occurrence List pane, for instance loaded from an E4F file, in a database repository.
To do this, first select the required occurrences and then the **File → Send to → Database** menu-item.



The **File → Send to → Database** menu-item is enabled only if the Occurrence List pane displays occurrences from a file (i.e. yellow Occurrence List pane, by default). You can use **View → Show the File Occurrence List** or the corresponding icon to switch to File Occurrence display.

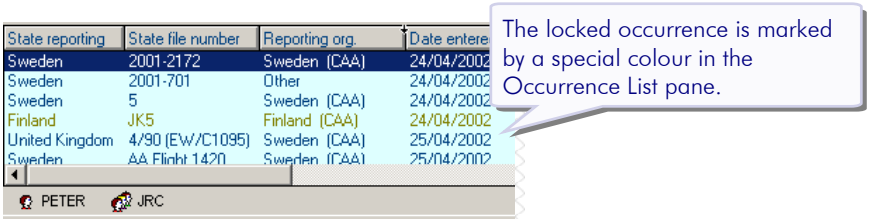
GENERATING OCCURRENCE FILES FROM THE DATABASE

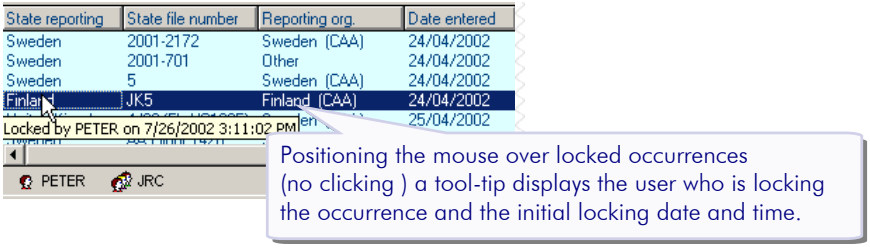
Conversely, although the **E4 Generator** (see page 15-1 and/or **Exporter** (see page 17-12) ECCAIRS utilities are the suitable tools for exporting occurrences into files, the ECCAIRS Browser also offer the **File → Send to → File** function, which allows to create an E4F file out of selected occurrences originated from a database query or even from another E4F file (see page 8-4 and 6-5).

CHAPTER 7

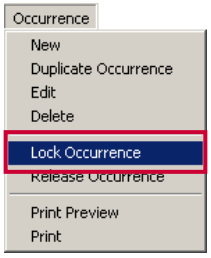
LOCKING AND RELEASING OCCURRENCES

When creating or modifying occurrences (see page 9-1) in the database, ECCAIRS Browser automatically puts a lock on the occurrence. The lock prevents other users to edit or delete the same occurrence at the same time.

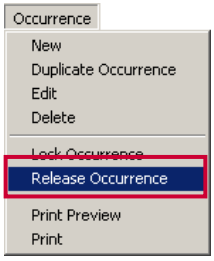




After completion of the edit phase the ECCAIRS Browser automatically releases the lock on the occurrence.



Occurrence locking can also be explicitly set by the user, even when no editing is in course, to prevent other users from modifying the occurrence.
This is achieved by selecting the occurrence(s) and choosing **Occurrence → Lock Occurrence** from the menu bar. The occurrence(s) remains locked until the user releases the occurrence, even if the locking user disconnects from the repository or logs off the system.



The locked occurrence can be **released**, by the **same user** who put the lock, by selecting the occurrence and choosing **Occurrence → Release Occurrence** from the menu bar.

The colours used to mark the lock can be customised in the **Appearance tab** of the **View → Options** dialog window (see page 5-3).

A different lock-marking colour is used when the lock has been put by a **different user**, and hence **cannot be released** by the current user.

QUERIES

Queries are commands sent to the ECCAIRS database server to identify a set of occurrences from the database based on a criterion or a number of logically combined criteria.

The basic building block of a query is a **criterion**. A criterion is a requirement for a particular occurrence attribute (e.g. visibility).

Visibility. less than 50 m

Any of the attributes can be used to build a criterion.

The ECCAIRS Browser provides the user facilities to build criteria (see page 7-13) and queries (see page 7-8) with ease, without any need to be a database expert.

Criteria can be combined logically by **AND** and **OR** operators, and **brackets** can be used to indicate grouping.

{
Precipitation intensity. equal to Heavy
and
Visibility. less than 50 m
}

Parametrical queries are also supported: i.e. the value(s) of the attribute are not defined at design time but rather at run-time. When running the query the user is prompted with a dialog box to provide the actual value(s) of the attribute for the particular execution of the parameter query.

{
Injury severity level. equal to (Value to Ask)
}

ECCAIRS queries are organised and stored in libraries, which can contain an unlimited number of queries. In the ECCAIRS Browser a query cannot exist stand-alone but only defined within a Query library (see page 7-7).

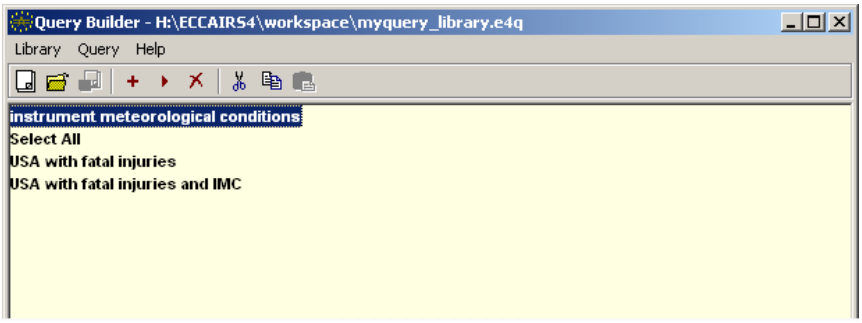
Query libraries and queries are created, edited and managed via the Query Builder dialog window (see page 7-8).

CHAPTER 7

QUERY LIBRARIES

ECCAIRS queries are organised and stored in libraries. Each library can contain an unlimited number of queries. Within the ECCAIRS Browser a query cannot exist stand-alone but only defined within a Query library.

Queries in the currently opened query library are listed by name within the main pane of the Query Builder dialog window.



Queries can be added, edited and deleted from the library.

Query libraries allow a better management of queries, e.g. users can group queries of a specific type in libraries so that they can easily be retrieved for specific purposes.

Query libraries can be created, opened, closed and saved with user-specified names.

Libraries are saved in ECCAIRS 4 Query file format (.E4q file extension).

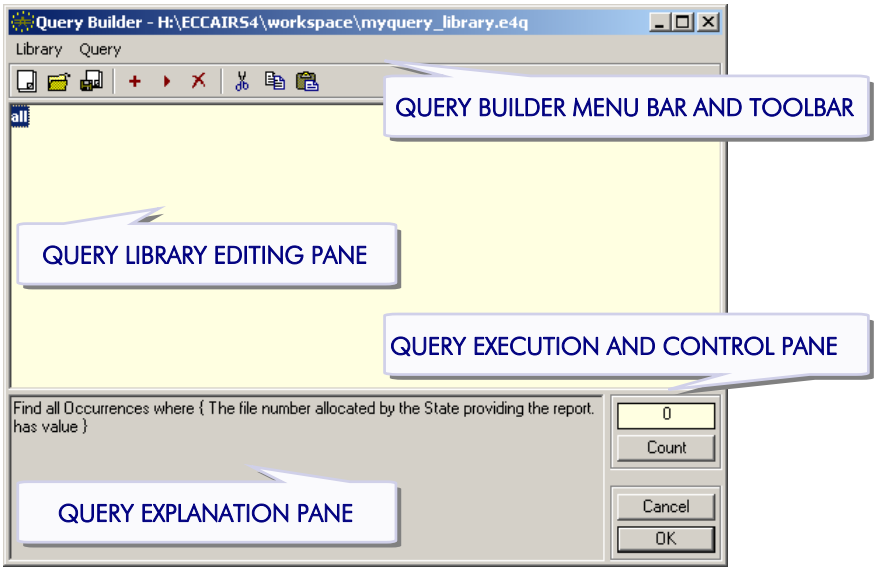
Hence query libraries also provide an easy mean to exchange queries between users and organisations, since libraries are stored in files which can be easily sent and copied across.

The Query Builder main window functions are described in detail on page 7-8.

Stand-alone queries (i.e. not within Query Libraries) can instead exist within other applications (e.g. Exporter page. 18-4).

QUERY BUILDER

Selecting **Database → Build Query...** from the menu bar or the corresponding icon-button in the toolbar the Query Builder dialog window will be displayed.



If a query library has been previously opened, it is automatically re-opened. Alternatively a new empty library is implicitly created and opened.

The menus and toolbar items allow to perform:

- ☑ **Query library editing**: see page 7-9
- ☑ **Query editing**: see page 7-10
- ☑ **Query execution**: see page 7-18.

Query Explanation pane

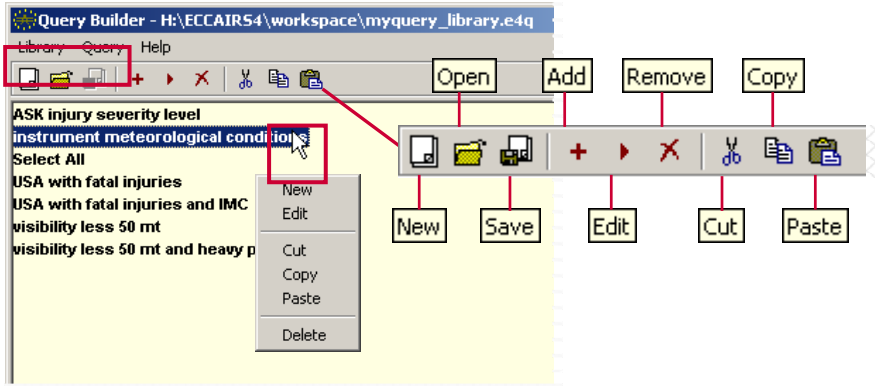
The Query Explanation pane displays a natural language explanation of the currently selected query. The same information can be shown, without having the Query Builder dialog open, by selecting the **Database → Show current Query** menu-item of the main Browser window (see page 7-19).

CHAPTER 7

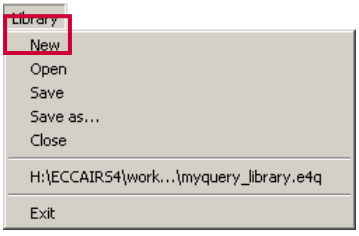
EDITING QUERY LIBRARIES

Query libraries can be edited in the Query Library Editing pane using:

- ☑ The **Library** and **Query** menus and the **Right-click menu**
- ☑ The **toolbar** icon-buttons.

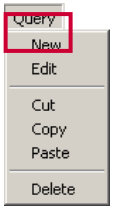


From the **Library** menu it is possible to:



- ☑ Create a **New** query library
- ☑ **Open** an existing one
- ☑ **Save** it with the current name
- ☑ **Save as...** saves it with another name
- ☑ **Close** the library
- ☑ Directly select and open any of the **most recently used libraries**
- ☑ **Exit** the Query Builder.

From the **Query** menu, it is possible to:

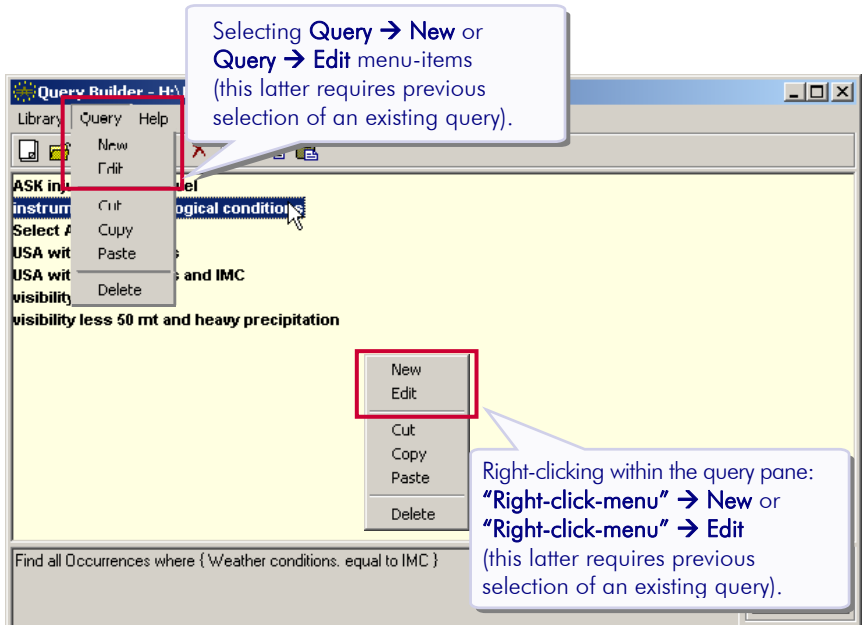


- ☑ Create a **New** query
- ☑ **Edit** the selected query in the list
- ☑ **Cut**, **Copy**, **Paste** a query
- ☑ **Delete** the selected query from the current query library.

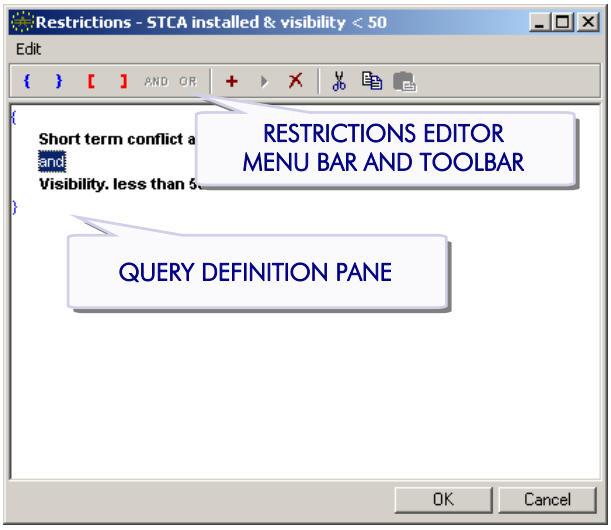
By right-clicking in the Query Library Editing pane the contextual menu is invoked. The "**Right-click-menu**" has the same menu-items as the **Query** menu.

CREATING AND EDITING QUERIES

Creation of new queries or editing of existing ones can be achieved within the Query Builder main window by:

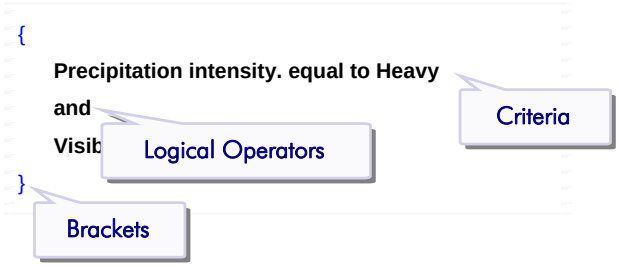


A Restrictions editing window, i.e. the query editing main window, shows up.



The Restrictions window has a menu bar (with a single menu: Edit), a toolbar, a Query Definition pane (a white pane hosting the query being edited) plus the "standard" OK and Cancel buttons.

In the sample snapshot of a Query Definition pane shown below it is possible to identify the three basic elements of which a query is built:

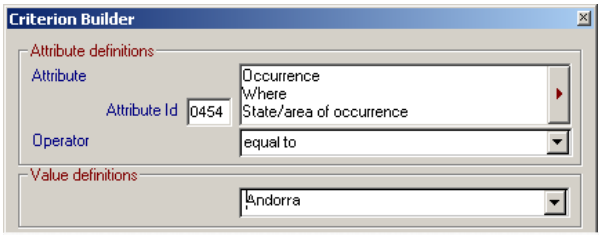


Criteria

A Criterion is an expression involving 3 elements :

ATTRIBUTE OPERATOR REFERENCE_VALUE/FUNCTION

e.g.
State/Area equal-to Andorra



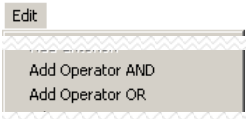
For details on the facilities available when building criteria see Criterion Builder window on page 7-13.

Logical operators

A Logical Operator is one of the 2 logical operators AND/OR used to connect 2 or more criteria:

CRITERION AND/OR CRITERION

e.g. State/Area equal-to Andorra
AND
Local date equal-to Current Year

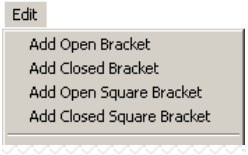


Brackets

Brackets are used to group logical expressions to build complex criteria:

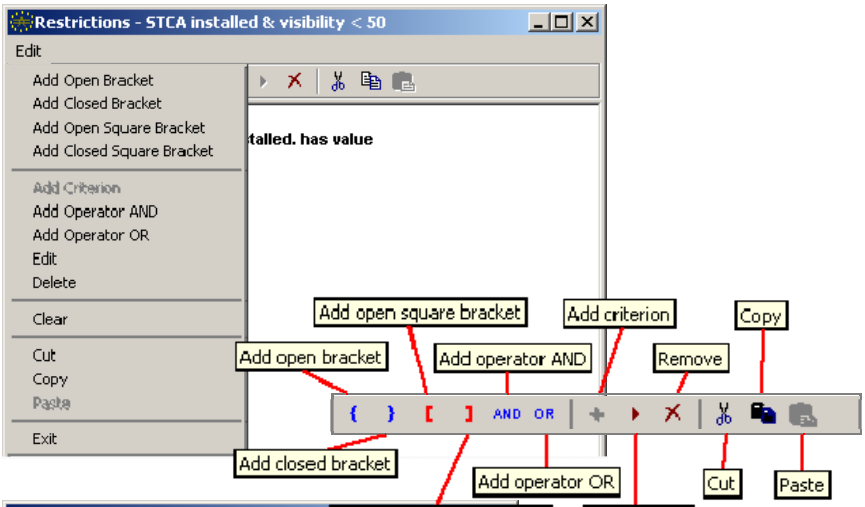
{ } - curly brackets are used for normal grouping.

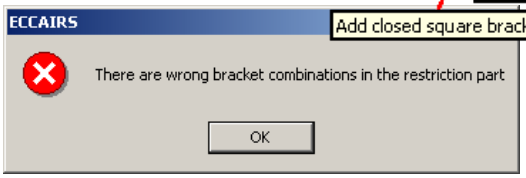
[ ] - square brackets are used to group criteria referring to a specific item of multiple-ones, for instance to a specific aircraft when more than one aircraft is involved in an occurrence.



Query elements are added, deleted and edited in the Query Definition pane using:

- ☑ The Edit menu and the Right-click menu items
- ☑ The toolbar icon-buttons.





Possible errors in the query syntax are indicated by suitable message windows (for instance because of an unbalanced number of brackets).

A specific Criterion Builder window (see page 7-13), helping the user to build criteria, is invoked by:

- ☑ Double-clicking on an existing criterion
- ☑ Selecting Edit → Edit menu-item (or "Right-click menu"→ Edit or even toolbar edit icon) when focus is on a criterion
- ☑ Selecting Edit → Add Criterion (or "Right-click menu" → Add Criterion or even toolbar add icon) when the focus is on a logical operator or on after a left bracket.

EDITING TIPS

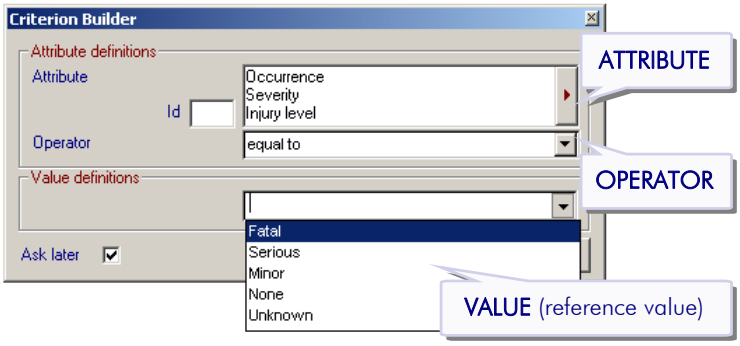
Double-clicking a left bracket collapses and expands the contained elements.

The query content can be completely cleared selecting Edit → Clear menu-item.

CHAPTER 7

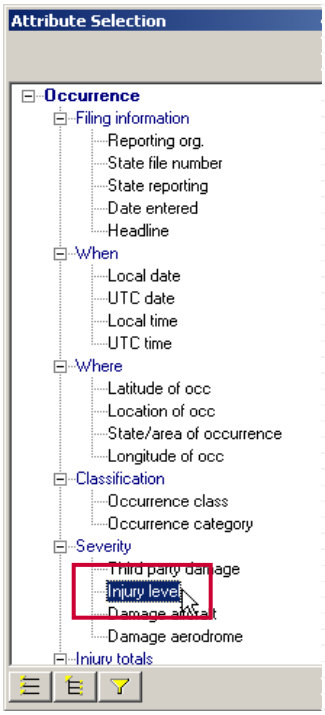
CRITERION BUILDER

The Criterion Builder dialog window allows to define the 3 elements for a query criterion:



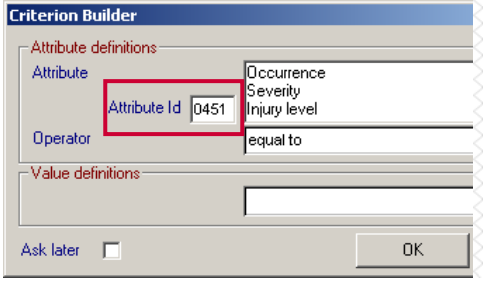
Attributes

A full qualified attribute identification involves specifying the triplet Topic-Section-Attribute.



This can be entered either:

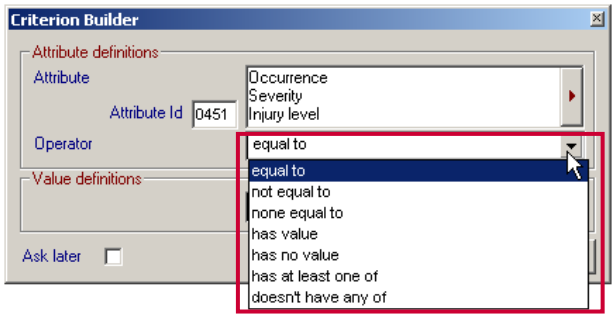
- Using the ECCAIRS standard **Attribute Selection** dialog window (see also side-note). Once selected, both the Id field and the triplet Topic-Section-Attribute get completed/filled-in.
- Entering directly the ICAO Attribute Id numerical code in the Id field.



More options for the ECCAIRS standard Attribute Selection dialog window are given in **Specifying attribute values**, page 9-8, within the **Editing occurrences** chapter).

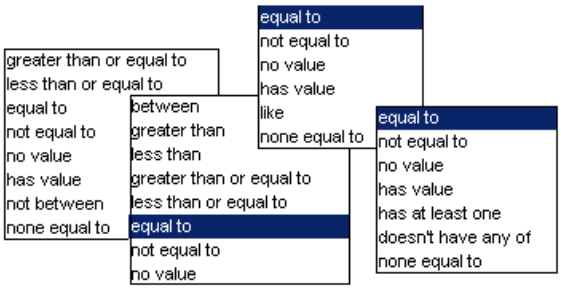
Operators

This can be chosen from the drop-down list proposed in the dialog.



The type of operators proposed varies according to the attribute selected.

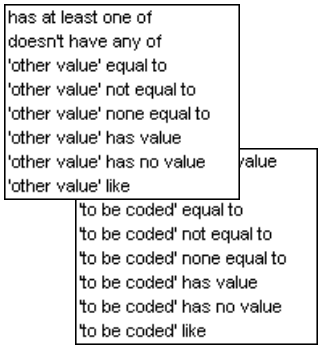
Some samples of operators available are shown below.



The operators may require as reference value:

- ☑ No specific value (i.e. the "has value", “has no value”)
- ☑ A single value (e.g. “equal to”, “less than”, …)
- ☑ Two values (e.g. “between”, “not between”, …)
- ☑ Multiple values (e.g. “has at least one”, …).

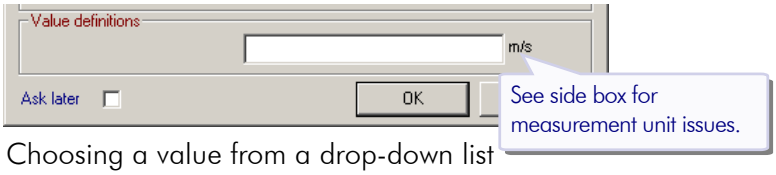
Attributes which have the possibility to be assigned alternative values (i.e. not yet coded values, see page 9-9 for details) also allow a set of operators referring to the alternative values, either as “other value” or as “to be coded”, for those alternative values which have been proposed a new code.



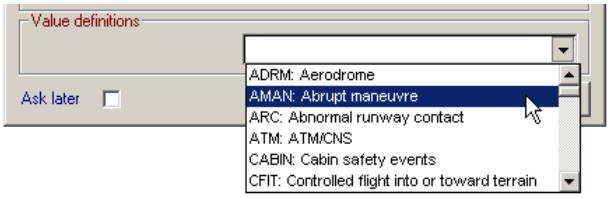
Values (reference values)

The value definitions box allows to specify the reference value for the attribute and operator chosen by:

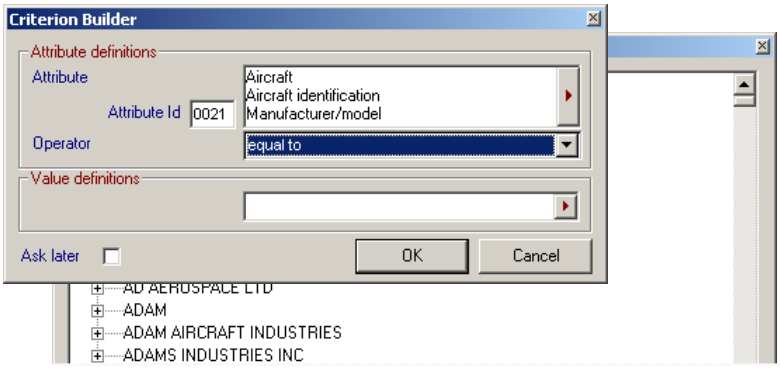
☑ Entering a free (unconstrained) value in an field box



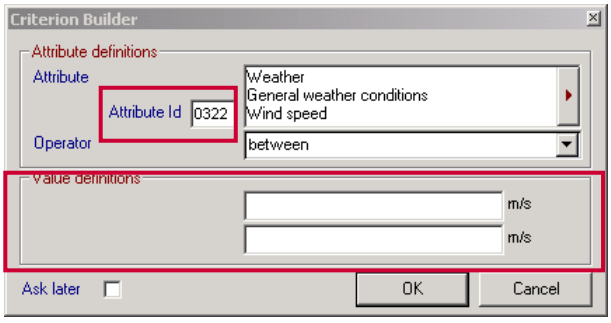
☑ Choosing a value from a drop-down list



☑ Choosing a value from a hierarchical selection and search dialog window (see page 9-8 for details).

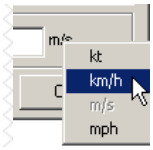


Two-values (range) selection



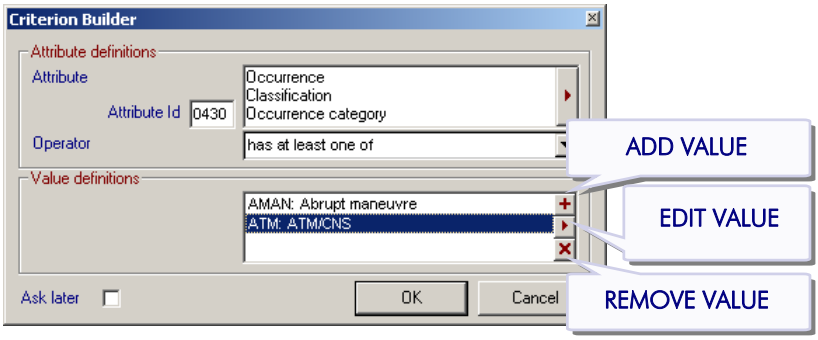
If two reference values are required (e.g. "between", "not between", …) the Value definitions pane is modified to host them.

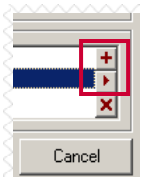
Clicking with the mouse right-button on any attribute measurement unit will display a set of alternate units available..



ECCAIRS also performs **unit conversion calculations** if the measurement unit is changed after a numerical value has been entered in the field box.

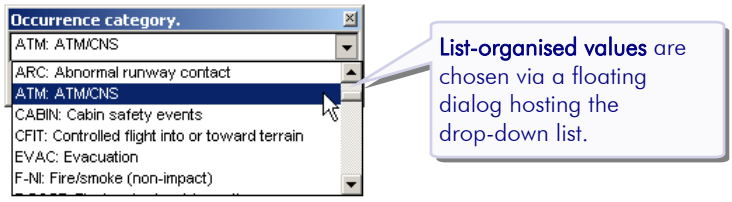
When multiple values are required (e.g. "has at least one", …) a specific multi-selection box is displayed within the **Value definitions** pane.



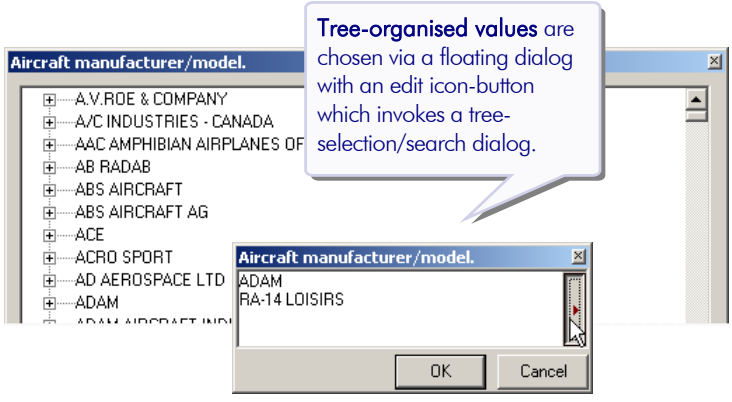


Adding and editing values invokes different type of dialog windows, depending on the attribute values structure (list or tree):

Multi-value selection – list-organised values

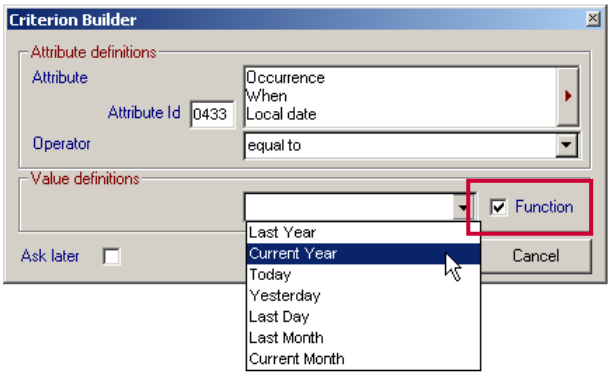


Multi-value selection – tree-organised values



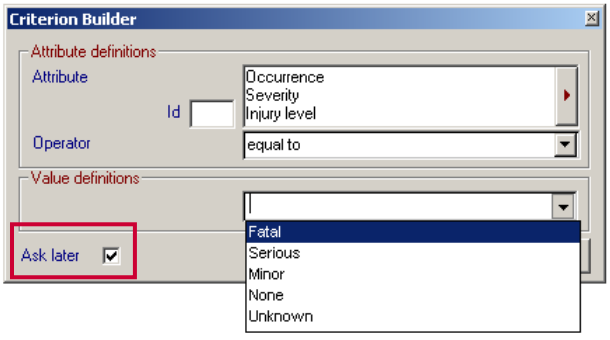
Date-range values grouping functions

A special case in the specification of date(s), which offers a **Function** check-box that gives access to a drop-down list of commonly used grouping functions to express date ranges.



Run-time specified values – Parameter Queries

Alternatively, and for each of the above cases, by selecting the **Ask later** check-box the user will be prompted to enter the reference value each time the associated query is executed.

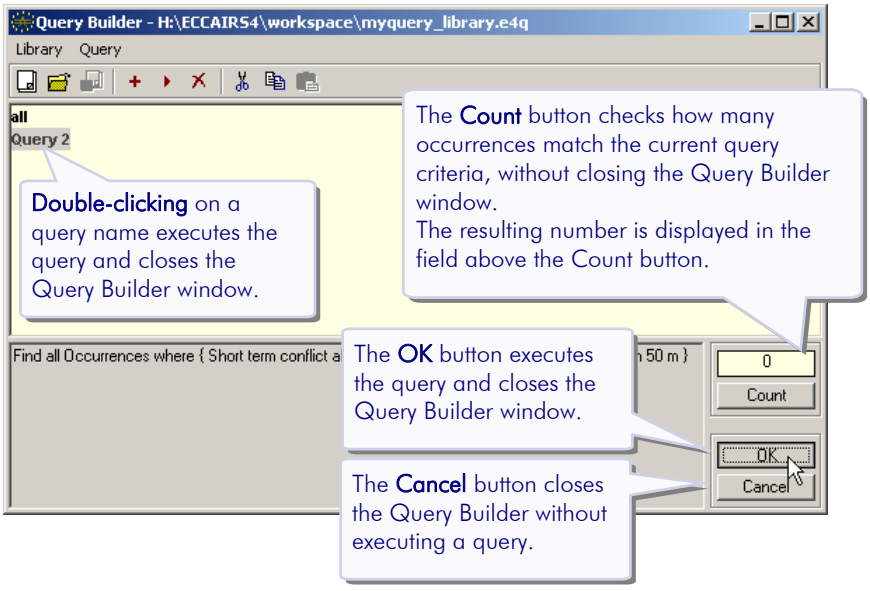


This mode is also sometimes referred to as “parameter-query”.

EXECUTING AND REFRESHING QUERIES

To execute a query:

- ☑ Select the query to be executed with the mouse (single click) and then push the OK button
- ☑ Alternatively, just **double-click** directly on the query to be executed.



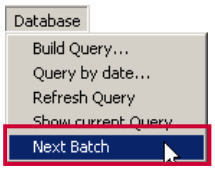
The Query Builder window closes and, after the execution of the query on the database, the occurrences matching the query criterion/criteria are shown into the Occurrence List pane.

The Count function, invoked by the **Count** button (see its caption in the picture above), does not close the Query Builder window, as the query Execution instead does.
Therefore the **Count** button can be suitably used to test a query before actually executing it.

QUERY BATCHES

If more than 500 occurrences result from a query, the resulting occurrences are handled and shown in the Occurrence List pane in batches of 500 occurrences (500 is the default size of the batch). The size of the batches is customisable by the ECCAIRS system administrator.

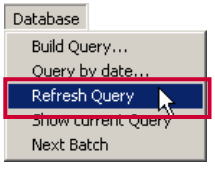
The current batch number will be displayed in the status bar.



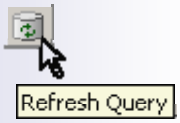
Switching between batches is done via **Database → Next Batch** menu-item.

QUERY REFRESH

Since the content of the ECCAIRS database repository is dynamic and may be updated at the same time a user is executing a query, query results may vary.

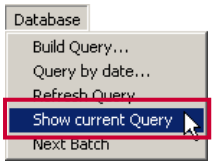


Selecting **Database → Refresh Query** menu-item will re-run the last query ran on the database.

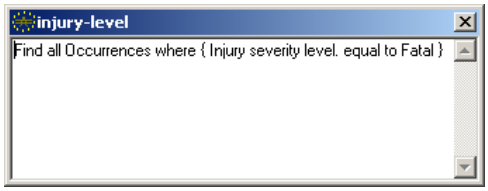


SHOW CURRENT QUERY

A text window with a natural language explanation of the currently selected query may be recalled selecting **Database → Show current Query** menu-item or the corresponding icon-button on the toolbar.



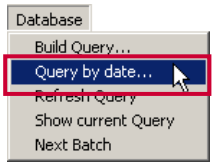
The same information is shown in the Query Explanation pane of the Query Builder dialog window (see page 7-8).



The same function is available in other ECCAIRS applications which involve queries (e.g. ECCAIRS Grapher and ECCAIRS Exporter).

QUERY BY DATE – YEAR/MONTH STATISTICS

1

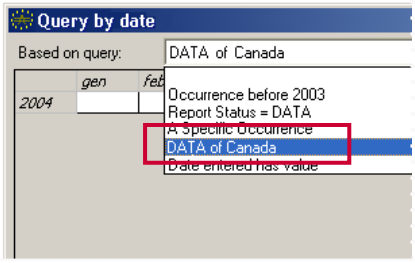


The ECCAIRS Brower provides the facility to sort and plot the occurrences, selected with a query, in an year/month table. Proceed as follows:

Select the **Database → Query by date** menu-item.

The **Query by date** dialog opens.

2

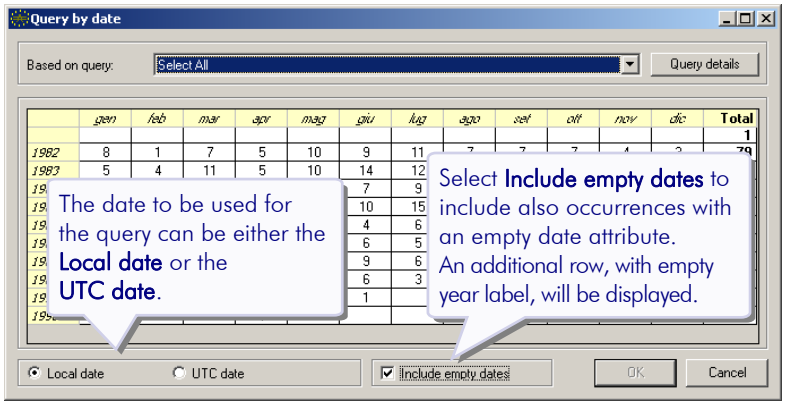


Select a query among those listed in the **Based on query** drop-down list. The list includes all the queries within the currently open query library plus a "built-in" Select All query (see side note).

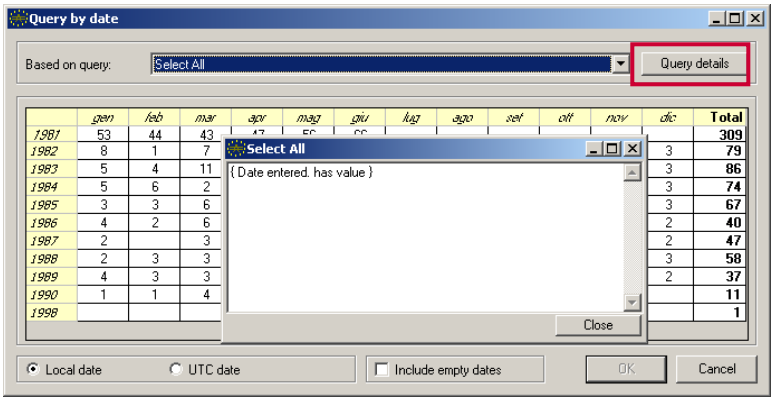
The related year/month plot is immediately displayed (point 3 below).

The first choice of the drop-down list, a blank field, corresponds to a "default" **select-all** query "built-in" the year/month plot itself (i.e. not taken from the current query library).

3



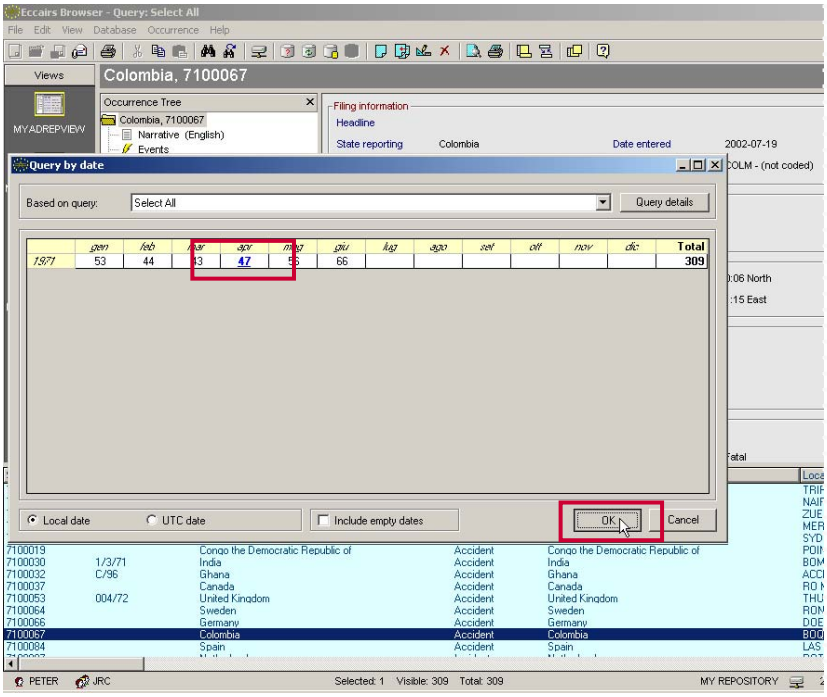
Pushing the **Query details** button displays a dialog with a natural language explanation of the currently selected query.



4

Query details

Clicking on a specific cell (i.e. on a specific month and year combination) and then clicking on the **OK** button, the related occurrences are loaded into the Browser occurrence list pane.



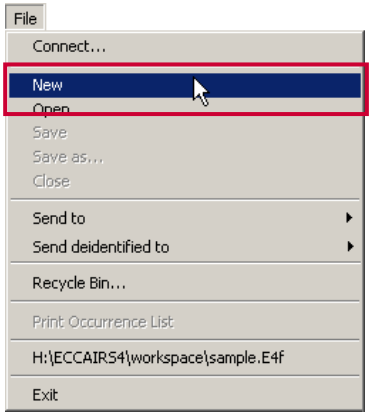
5

8 Working with occurrence files

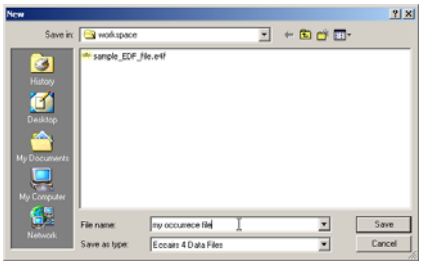
Create a new occurrence file

Occurrence files contain any number of ECCAIRS 4 occurrences in an encoded format. They have an .E4f extension and so we normally mention them as E4F files in this manual.

The number of occurrences in an E4F file is limited only by the capacity of your workstation. Occurrences usually have a size between 10 and 50 kBytes. 1000 occurrences will take up as an average 30 MBytes of disk space. So for performance and maintainability reasons it is suggested to limit an E4F file to approximately 1000 occurrences. To do so one could create E4F files that cover a specific time frame like a year or a month.



1 To create a new occurrence file select the File → New menu-item or the corresponding icon-button in the toolbar.

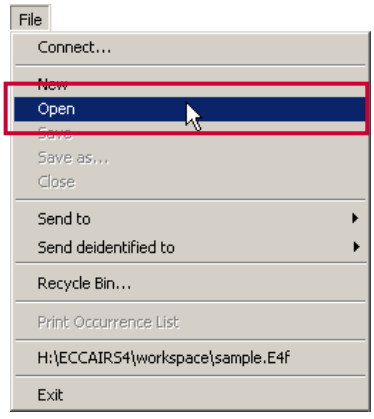


2 This will bring up the standard file selection dialog window to specify the location and name of the occurrence file to create.

To save disk space occurrence files can be saved in a compressed format (see page 8-5). The compressed format will not however affect positively the system performance.

OPENING-CLOSING OCCURRENCE FILES

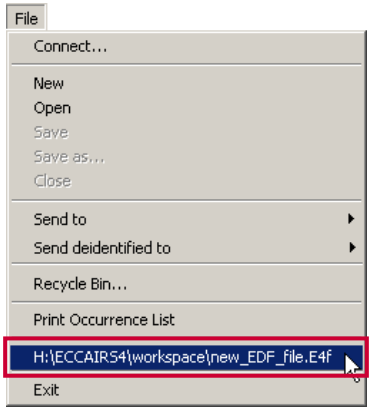
1



To open an existing occurrence file, select File → Open from the menu bar or the equivalent icon-button in the toolbar.

This will bring up the standard file selection dialog to specify the location and name of the file to open (with .E4f extension).

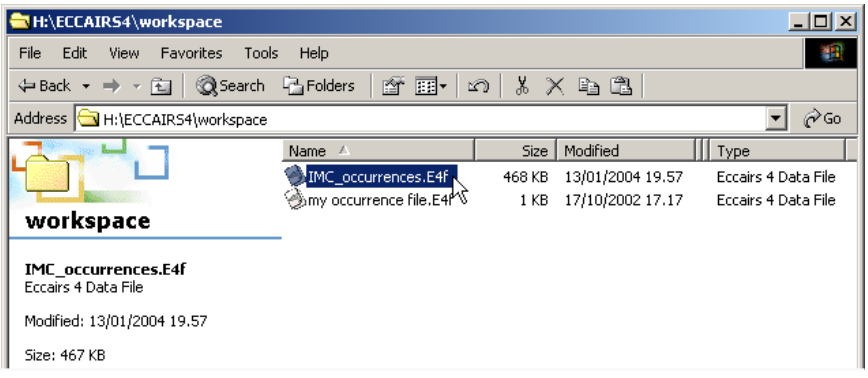
2



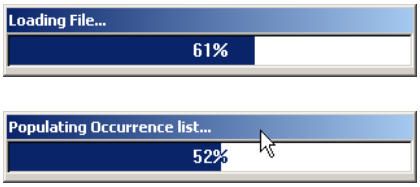
To directly re-open any of the most recently used files, select it from those listed in the bottom part of the File menu.

An E4F file can also be opened by double clicking onto its name in any Windows explorer view (e.g. browsing the files from "My Computer" icon). See picture below.

3



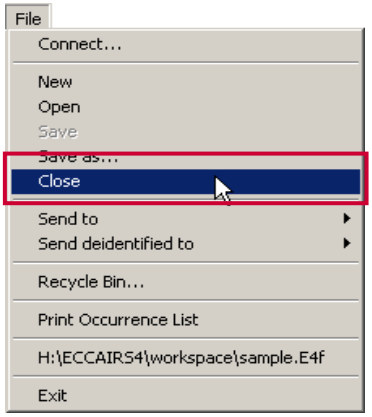
4



During the E4F occurrence file opening phase the occurrences will be loaded and the occurrence list pane will be accordingly populated.

This phase may take some time for large E4F files.

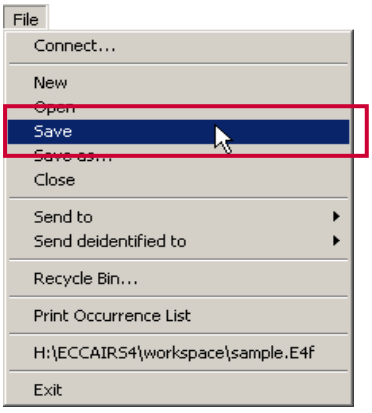
5



To close the currently open occurrence file, select from the File → Close menu-item.

SAVING OCCURRENCE FILES

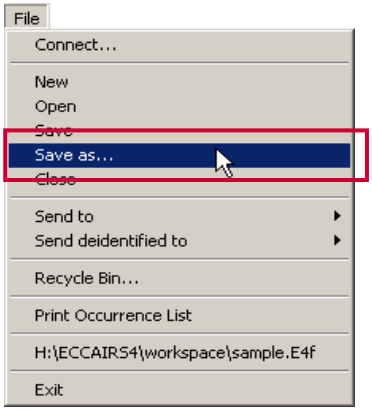
1



To save the occurrences in the currently open occurrence file just select the File → Save menu-item or the corresponding icon-button in the toolbar.

2

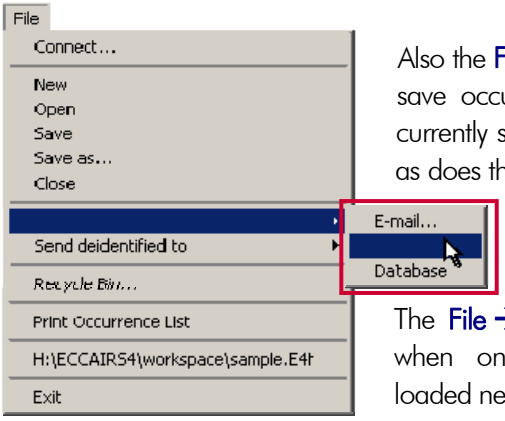
If errors occur on saving the occurrences on file a log message window with actions, warning and error messages is displayed.



The File → Save as ... menu-item saves all the occurrences in the occurrence list to a different file from the one currently open. There is no corresponding icon in the toolbar.

When the occurrence list has not been modified, e.g. no occurrences have been added/deleted/modified, the File → Save menu-item is disabled, while File → Save as ... is always enabled.

3



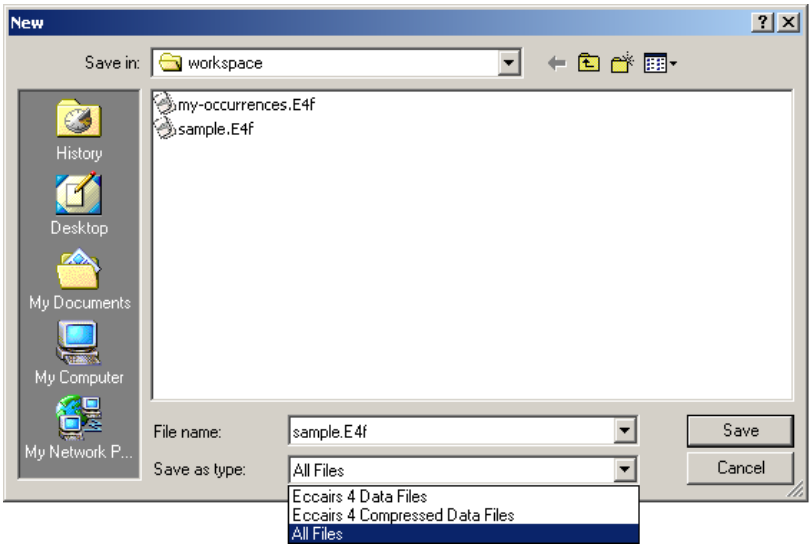
Also the File → Send to function allows to save occurrences. The option sends the currently selected occurrences (i.e. not all, as does the File → Save menu-item) either to a file, a database (see page 7-4) or as an attachment to an E-Mail (see page 10-4).

The File → Send to option can be used when only some of the occurrences loaded need to be saved on file.

SAVING COMPRESSED E4F FILES

The user can choose between two formats with the **Save as type** drop-down list whenever a save file dialog is invoked to save occurrences in an E4F file, i.e. using:

- ☑ **File → Save as ...** (see page 8-4)
- ☑ **File → Send to** (see pages 6-5, 7-4, 8-4, 10-5)
- ☑ **File → Send deidentified to** (see page 6-6).



The choices available in **Save as type** are:

- ☑ The default file format **Eccairs 4 Data Files** (E4F files, ending with the extension .E4f).
- ☑ By choosing **Eccairs 4 Compressed Data File**s instead (ending with extension .E4z), the file is compressed to save space.
  Each occurrences usually has a size between 10 and 50 kBytes. The compression can reduce the file size as much as 10 times. This may turn out useful when attaching occurrence files to e-mail or saving them to a space-limited device (e.g. floppy-disk, small pen-drives, etc.).
- ☑ **All files** just removes the filter to display only .E4f or .E4z files, respectively, within the dialog. The file is still saved in E4F format.

9 EDITING OCCURRENCES

ECCAIRS OCCURRENCE STRUCTURE

In ECCAIRS 4 occurrence data is collected in hundreds of different Attributes. Some Attributes are valid for an Occurrence (like the 'Date' the occurrence took place), others instead are valid for a sub-entity of the occurrence (like the 'Model' of an aircraft, in particular when the occurrence involves two aircrafts).

For visualisation and editing purposes, Attributes are grouped together in Sections. An example of two Attributes grouped together in a section is the 'Latitude' and the 'Longitude' of the place an occurrence took place (grouped together in Section 'Where').

For navigation purposes Sections can be grouped together in Topics.

A group of Topics placed in a particular sequence (hierarchical tree) can be made available to the users of a Repository as a View.

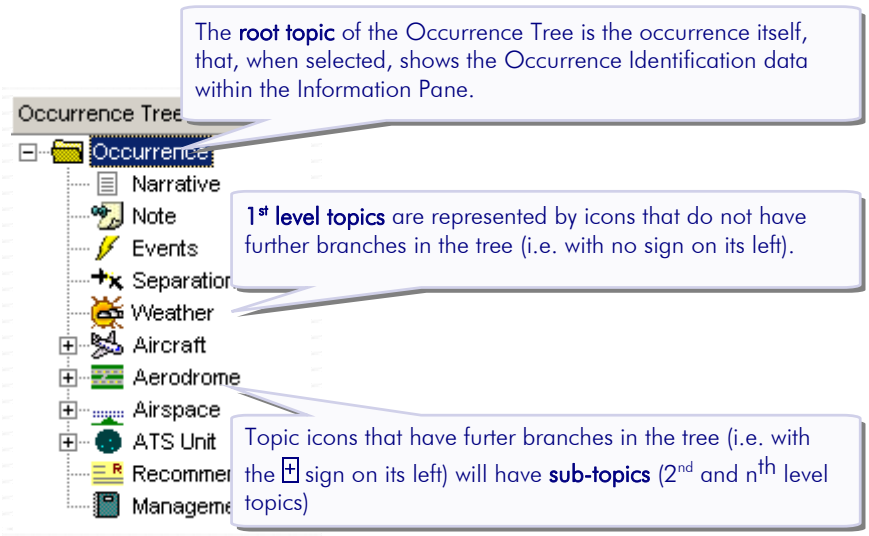
Though the ECCAIRS system comes with a set of "standard" views (see page 4-4) an ECCAIRS 4 administrator can modify or add Views as required. Topics can also be customised and/or created by the administrator.

Sections, and the related Attributes, are instead fixed in the standard ECCAIRS 4 system and cannot be changed by the administrator.

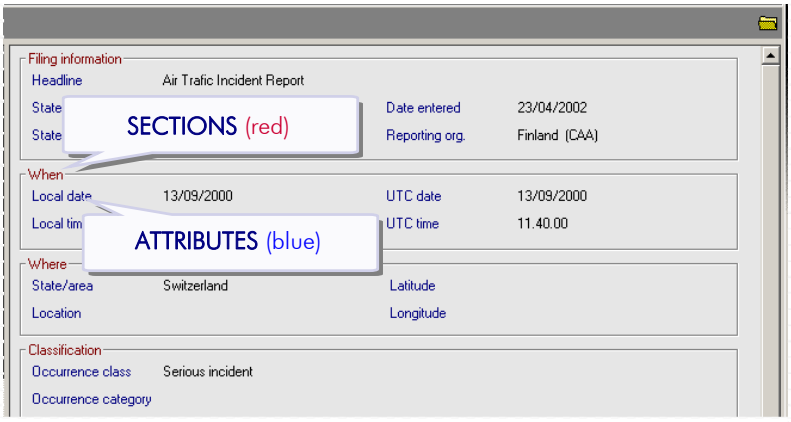
All Topics together can form a hierarchical tree by which the user of the ECCAIRS Browser can identify the place to look for particular information.

To sum up, we can say that Occurrences are described in ECCAIRS 4 by a hierarchical collection of topics, sections and attributes.

The hierarchy is explicitly displayed in the Occurrence Tree Pane of ECCAIRS Browser. Topics are represented by icons (see figure below).



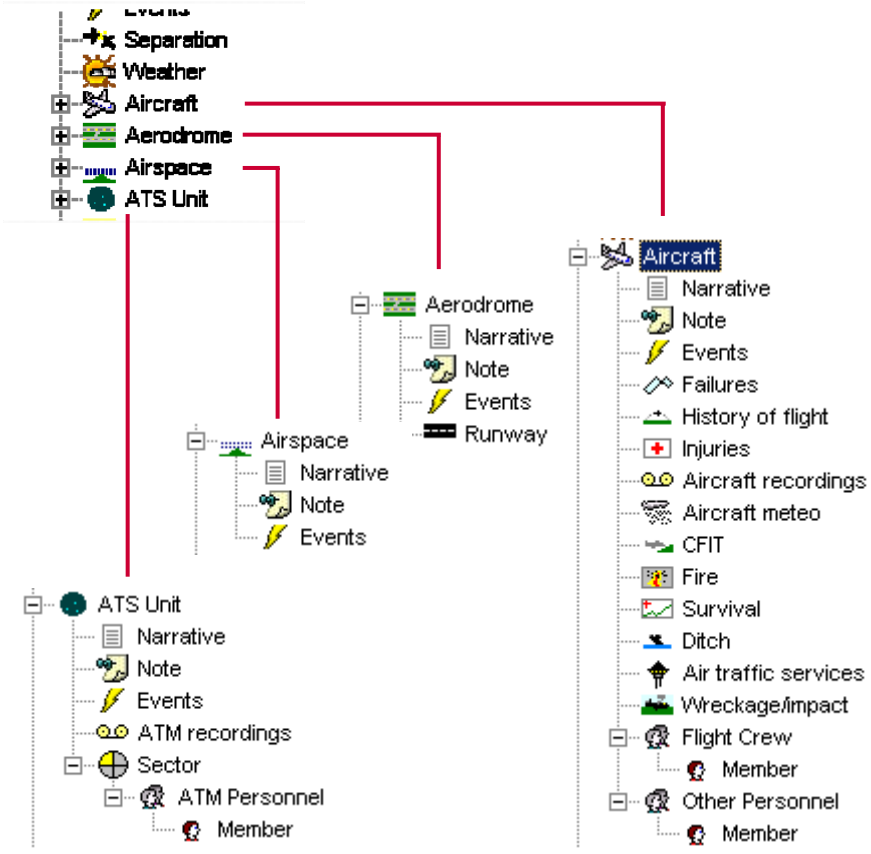
Each topic has an associated page displayed in the Information Pane which is displayed when clicking on the topic icon.
Each information page is then structured into sections, which are sets of related occurrence attributes (see page 2-9) taken from the ADREP 2000 taxonomy.



Subsequent level topics (in the ADREP 2000 View) are shown in the picture below.

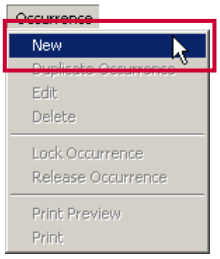
They are sub-topics of the first-level topics:

- ☑ Aircraft
- ☑ Aerodrome
- ☑ Airspace
- ☑ ATS Unit.



CREATING NEW OCCURRENCES

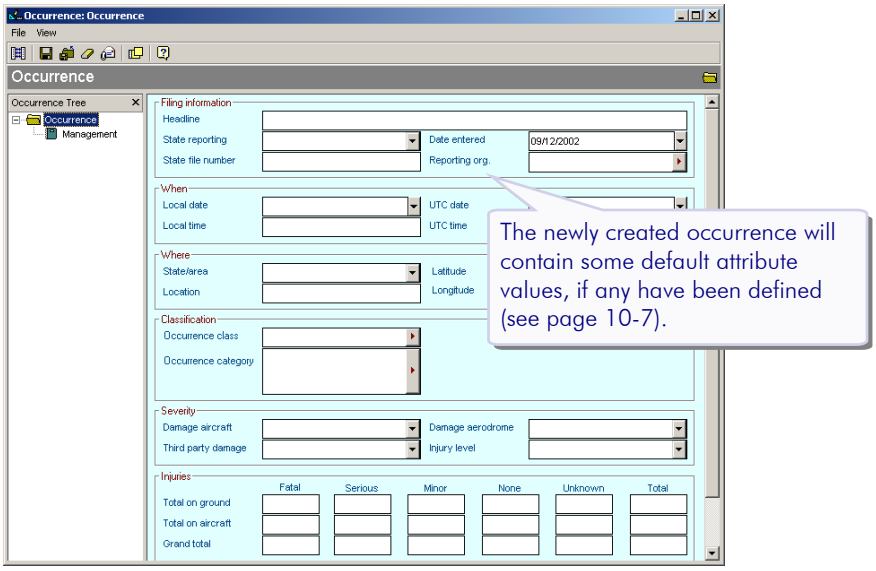
1



A new occurrence can be created by either selecting Occurrence → New from the menu bar or pushing the corresponding icon-button in the toolbar.

2

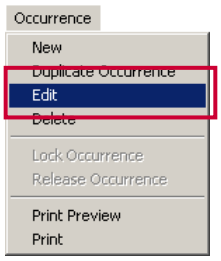
This creates a new occurrence in the working environment, i.e. in a temporary space (not yet in your current file or database-repository) and opens a separate Occurrence Edit window.



See page 9-6 for details on the Occurrence Edit window.

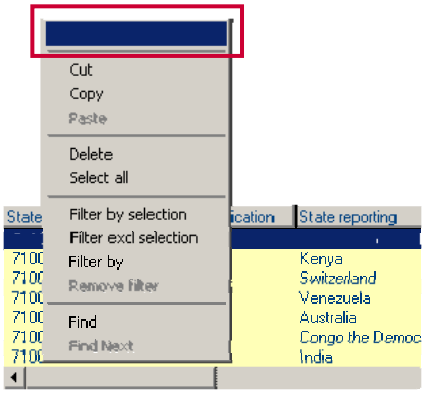
MODIFYING OCCURRENCES

1



An existing occurrence can be modified either selecting **Occurrence → Edit** from the menu bar or pushing the corresponding icon-button in the toolbar.

2



It is also possible to select **"Right-click menu"→ Edit** or just **double-click** on an occurrence in the Occurrence List pane.

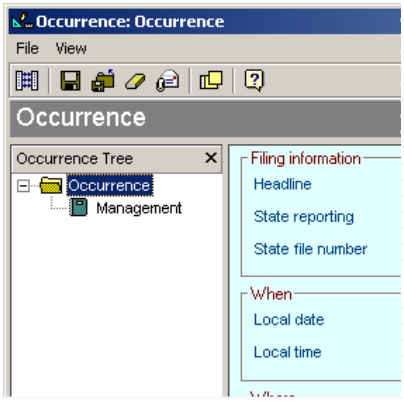
The Occurrence Edit window will be opened. Once modified, the occurrence is always by default stored back in the originating source, either the database or the E4F file from which it was taken.

During editing, the occurrence in the database is automatically locked for other users.
As long as the occurrence is kept locked nobody else can modify it, except the locking user him/herself.
A user can open an occurrence from the database and keep it locked until he/she has finished editing it, even during various ECCAIRS Browser sessions.

For other details on occurrence locking see page 7-5.

THE OCCURRENCE EDIT WINDOW

1

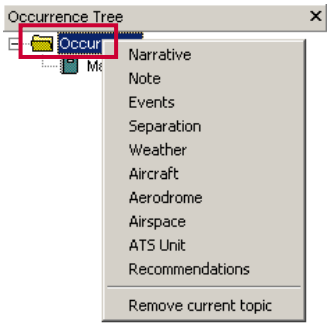


An Occurrence Edit window is opened both when creating a new occurrence and when editing an existing one.

The Occurrence Edit window is based on the Info pane of the main ECCAIRS Browser window. However, it is a separate independent window and thus co-exist with the main window.

A new occurrence may already contain default attribute values, if any has been defined and saved as template (see page 10-7).

2

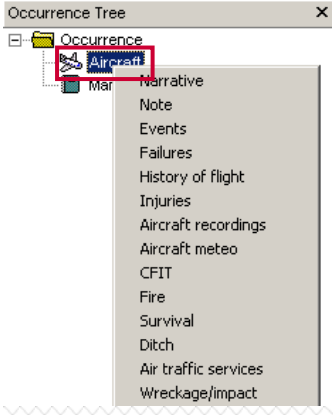


To fill in data for an occurrence first define the first level topics by:

- ☑ Selecting the top (root) Occurrence node,
- ☑ Then choosing the topic to be added from the right-click menu.

The user can also set ECCAIRS Browser to show all the nodes in the topic tree, also if empty (see page 5-2).

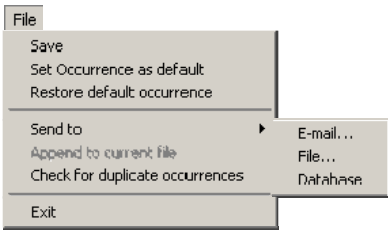
3



To add further level topics to a 1st level one, select it and again choose the topic to be added from the right-click menu.

Once the occurrence-tree leaves are reached, it is possible to fill in attributes within the sections of the Info pane. Refer to the "Specifying attribute" section on page 9-8 for details.

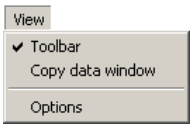
The File menu in the Occurrence Edit menu bar allows to:



- ☑ **Save** the data entered so far with the occurrences currently in the Occurrence List pane.
- ☑ **Set and Restore default occurrence** content (template): see page 10-7.
- ☑ **Send to → E-mail..., → File...** or **→ database** the occurrence being edited.
- ☑ **Check for duplicate occurrences**. The check can be performed when editing occurrences stored in a database. A check on duplicate State File Number and State Reporting attributes is in any case made when saving the edited occurrence back in the database.

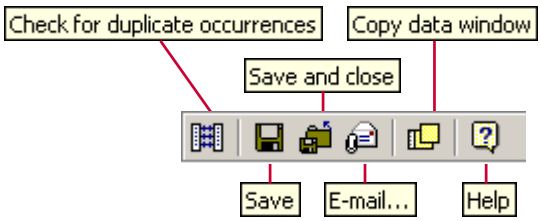
The Occurrence Edit window has a different default background and colour scheme, to distinguish it from the browse-Info Pane of the main Browser window.

The View menu in the Occurrence Edit menu bar allows to:



- ☑ **Copy data window** (take a snapshot), exactly as with the Information Pane in the main window.
- ☑ **Toolbar**: toggle on/off toolbar visibility.
- ☑ **Options**: to customise display properties of the Occurrence Edit (and other) ECCAIRS windows and panes in particular its colour scheme (see page 5-2). The same functions are available in the main window **View → Options** menu-item.

Most of the functions in the two menus are available also in the toolbar.



MINIMUM NUMBER OF ATTRIBUTES REQUIRED

The minimum number of attributes that need to be filled to be able to save the occurre in the File Information section within the main (root - occurrence) occurrence-tree nod

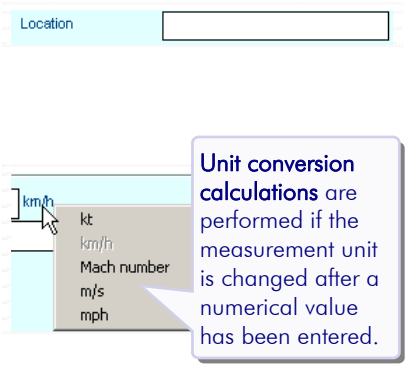
- *State Reporting*
- *State File Number*
- *Reporting Organization.*

If any of them is missing an error message is issued on saving/exiting.

SPECIFYING ATTRIBUTE VALUES

There are different ways to fill in occurrences attributes:

Direct editing

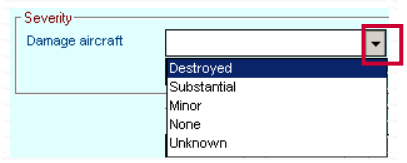


The user types in the value needed, terminated by the [RETURN] key, of by moving to another attribute either with the [TAB] key or by moving the mouse pointer.

Clicking with the mouse right-button on any attribute measurement unit will display a set of alternate units available.

Data type errors are notified to the user by removing the incorrect input data and issuing an alarm sound (bell sound).

Drop-down list



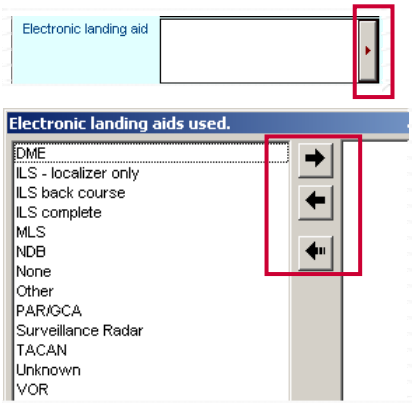
The user chooses from one of the predefined attribute values proposed in a drop-down list.

Also ICAO attribute/section codes and their definitions can be displayed.

Just hold down the [CTRL] key while clicking onto the section/attribute name in the Information pane.

See page 10-6 for details.

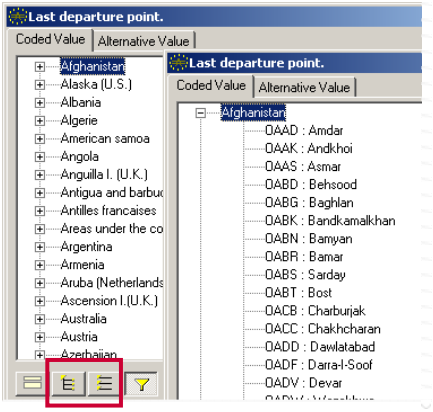
Multiple selection boxes



When more than one attribute value may be specified, ECCAIRS proposes a box (dialog window) where the user can add and remove attributes values to a selection list-pane (on the right). There are also a value explanation and a value filter facilities, which are described on pages 9-9 and 9-10.

Hierarchical selection boxes

When suitable, ECCAIRS proposes a hierarchical selection box, with display filter capabilities, where the user can either:

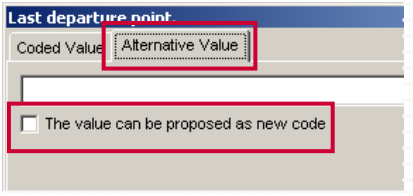


FIND ATTRIBUTE VALUE BY BROWSING

Clicking on the right button opens the hierarchy navigation window.

Clicking on a collapsed node ⊞ **expands** it into its **branches**.

Clicking on an expanded node ⊟ **collapses** its **branches**.



SPECIFY AN ALTERNATIVE VALUE

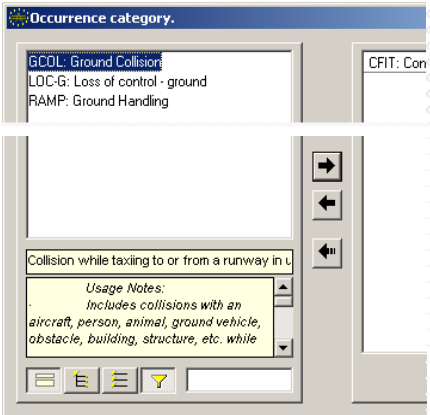
If the value wanted is not included in the predefined multi-level value tree, in some cases a specific alternative value may be entered using the **Alternative Value** tab.

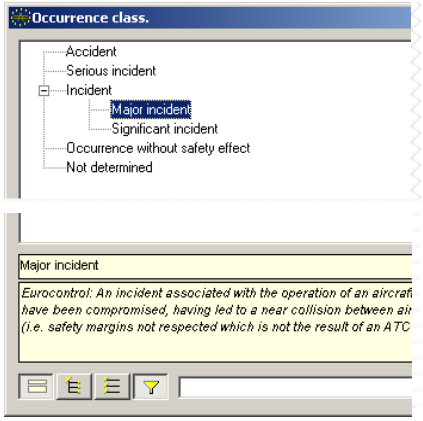
The hierarchy navigation window is also opened if the user types any text in the attribute field. The text is automatically placed in the filter field at the bottom of the window (see page 9-10).

Ticking the **The value entered can be proposed as new code** check-box allow to propose the value entered to be included as new standard code.

Displaying-hiding value explanations

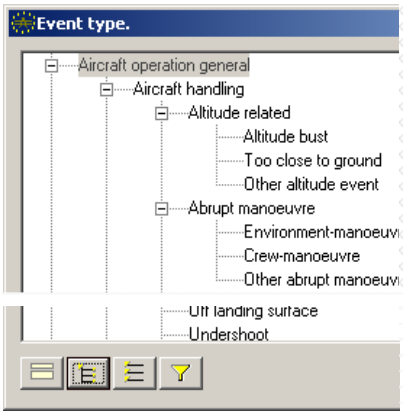
Multiple and Hierarchical selection dialogs have the **Explanation** button at their left-bottom edge to toggle on/off display of value explanations.





Filtering values/explanations in multiple and hierarchical boxes

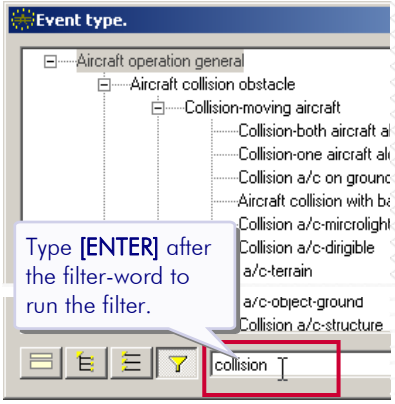
Multiple and Hierarchical selection dialogs allows to filter displayed values using the rightmost button at their bottom edge, Filter On/Off.



FILTER VALUES

To filter values by a specific word click on the Filter On/Off button: a filter text field will appear on its left.

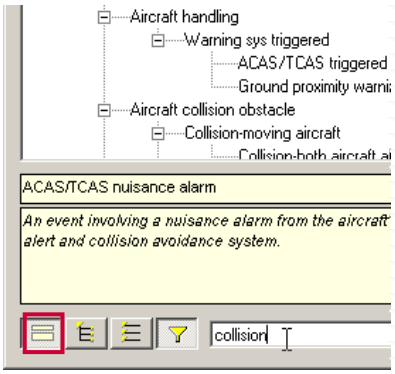
Had the user typed any text in the attribute field of the editing pane, the filter would be toggled on and the text would be copied in the filter field.



Type in the filter field the word, or part of it, to be used as a display filter, followed by the [ENTER] key.

Only branches/lines in which one of the values contains the specified text are now displayed.

The first occurrence of the filter-word found is automatically selected.



FILTER VALUES AND EXPLANATIONS

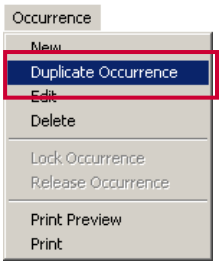
If the Explanation button has also been pressed the filter will operate also on the short and detailed descriptions.

So if the filter-word is found among the explanations, the corresponding value branch/line will be displayed also if the value itself does not contain the filter-word.

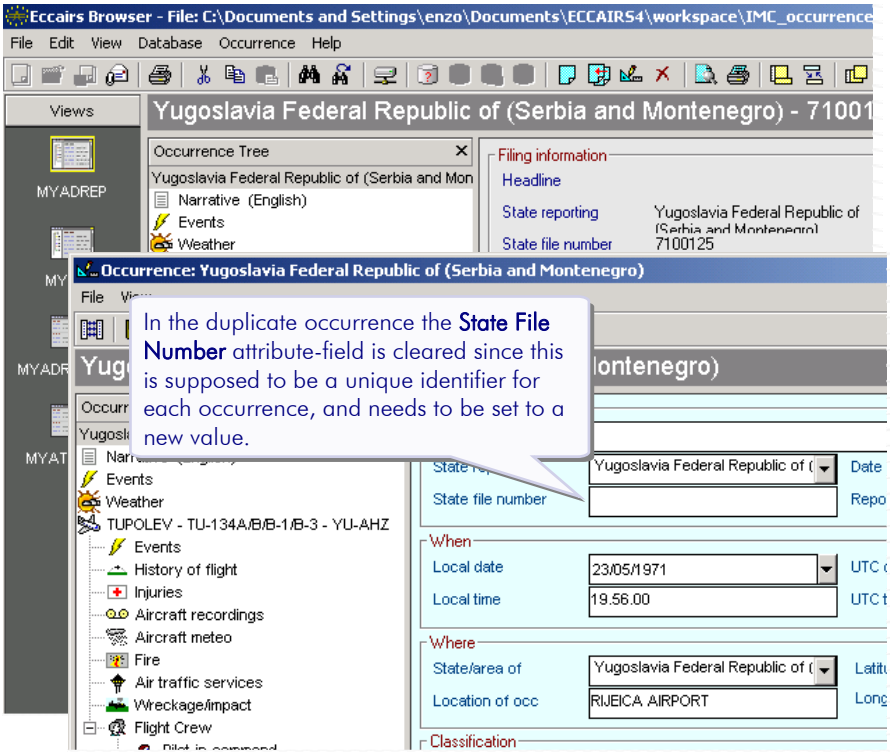
CHAPTER 9

DUPLICATING OCCURRENCES

A copy of an occurrence can be created selecting the occurrence to be copied in the Occurrence List pane and then either **Occurrence → Duplicate Occurrence** menu-item in the main ECCAIRS Browser window, or the pushing the corresponding icon-button in the toolbar.



ECCAIRS creates a new occurrence, containing exactly the same attributes as the original (see the exceptions below), and opens the Occurrence Edit window on it.

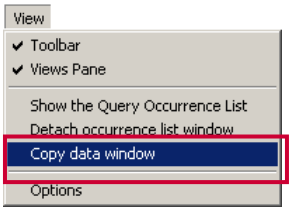


In the duplicate occurrence the **Management topic** does not get anything inherited/copied from the "source" occurrence, as this is a new occurrence with his own management history.

In particular the **Date report created** and the **Report last modified** attributes in the **Occurrence Report** section are set to the date and time when the duplication has been performed.

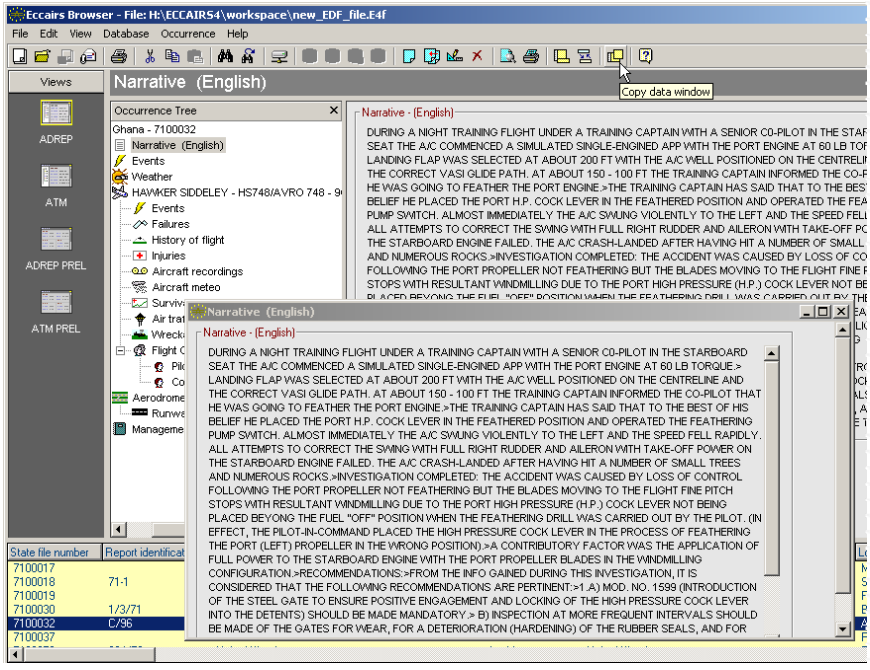
Occurrence window snapshot

To take a snapshot of the currently displayed Information Pane select View → Copy data window menu-item, or the corresponding icon-button in the toolbar.

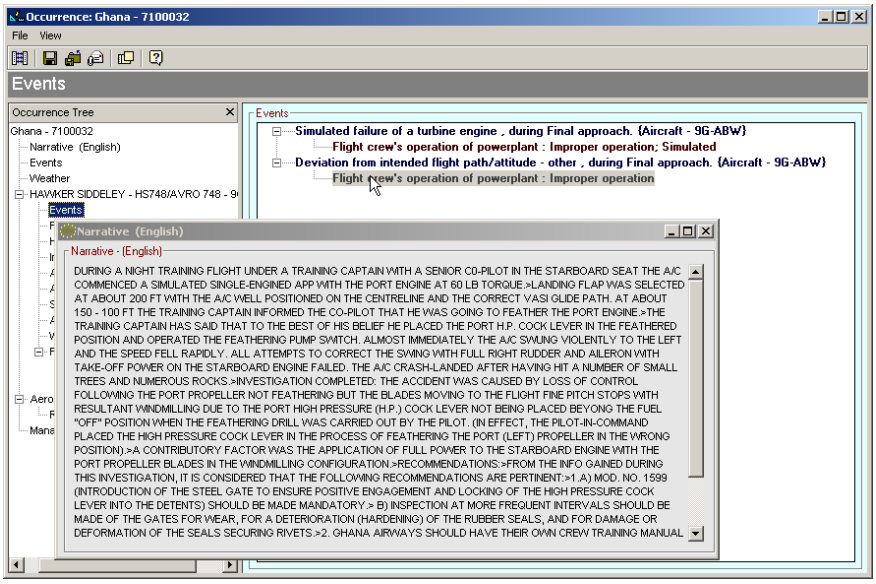


It is possible to take and manage more than one snapshot of any Information pane, at pleasure.

Each snapshot is kept in a separate independent window and can be moved around, resized, etc.



For instance the snapshot feature can be used to display an already filled-in narrative topic(s), and use it as reference when entering (editing) other topics/sections/attributes.



MANAGING SCREEN SPACE EFFICIENTLY WITH SNAPSHOTS

When minimising (to an icon) the "read-mode" main Browser window, also the snapshots get minimised and are no more visible.

When wishing to use an occurrence snapshot as a fererence while editing, it is advisable to ***resize rather than minimize*** *the Browser window.*

By doing so the user gains display space on the desktop for the coexistence of snapshot(s) with the edit occurrence window.

10 Printing and other utilities

Printing functions available

The printing-related functions in ECCAIRS Browser described here are:

- ☑ Previewing Occurrence Printouts: see page 10-2.
- ☑ Printing Occurrences: see page 10-4.

and are both invoked from the Occurrence menu and from the corresponding toolbar items.

In addition there are two other functions which have been introduced in previous sections of this manual:

- ☑ Printing Lists of Occurrences: see page 6-7.
- ☑ Set Default Printer and Margins: see page 5-9.

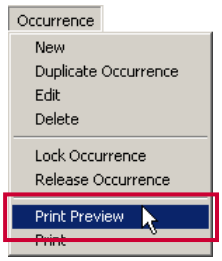
The first is selected by the File → Print Occurrence List menu-item (and corresponding toolbar item).
The second is selected by the View → Options menu-item, both in the Occurrence Edit and in the main ECCAIRS Browser window.

Other utilities

Other utilities dealt with in this section include:

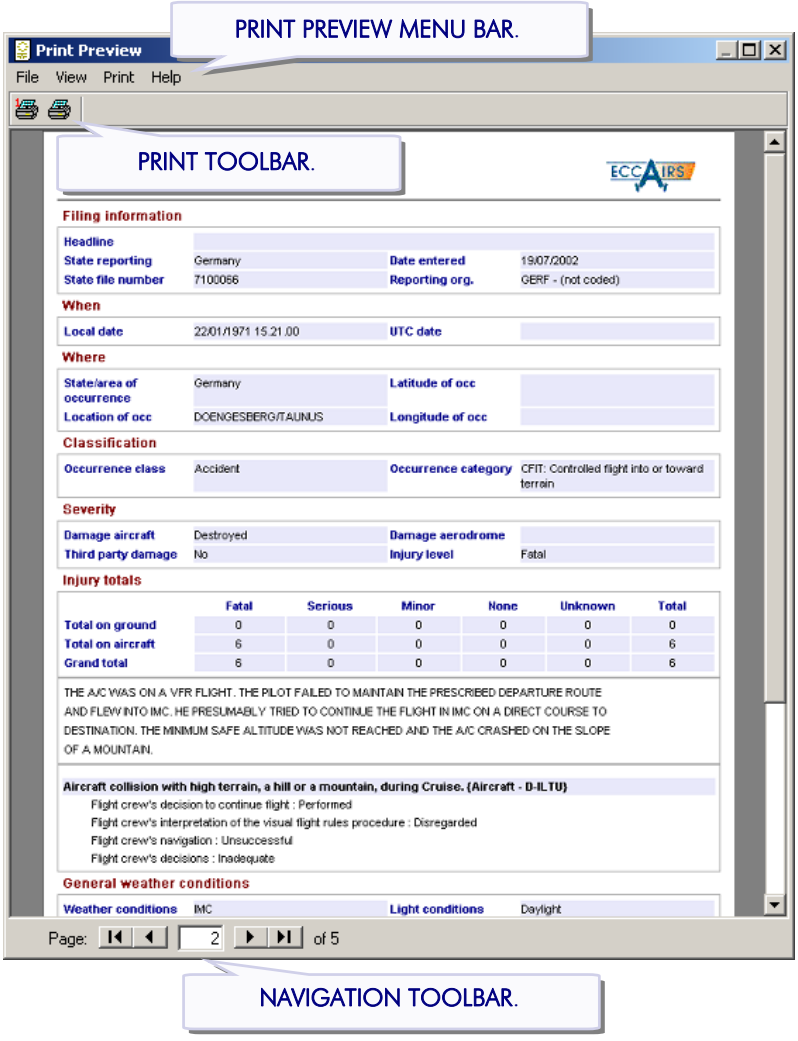
- ☑ Sending occurrences as E-mail: see page 10-5.
- ☑ Finding definitions and descriptions: see page 10-6.
- ☑ Occurrence template: see page 10-7.
- ☑ Help and system info: see page 10-8.

PREVIEWING OCCURRENCE PRINTOUTS

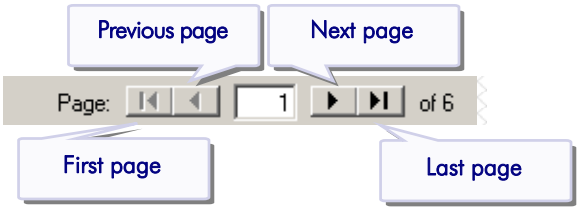


The menu bar item **Occurrence → Print Preview**, or the corresponding icon-button on the toolbar, allows to preview the printout of all the occurrence sections that have been filled-in for the currently selected occurrence.

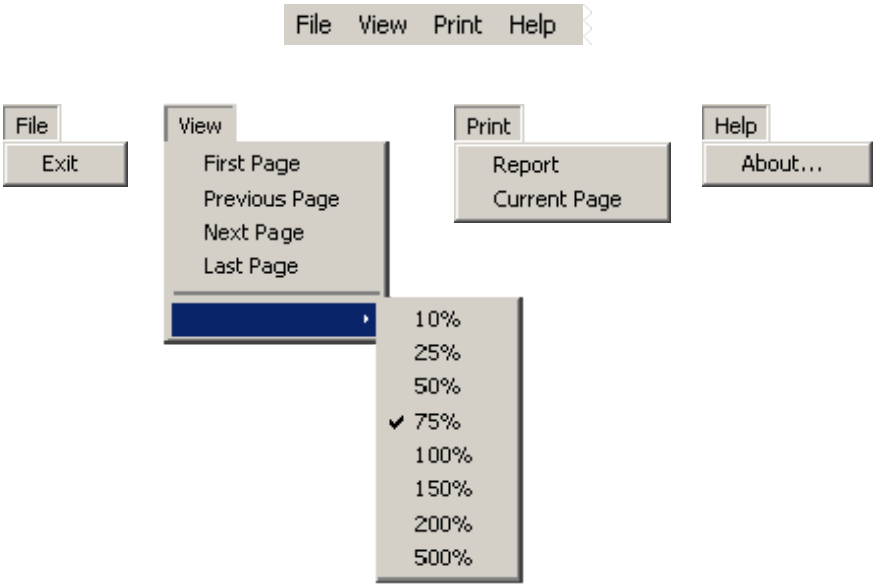
A Print Preview window allows to control both the preview and the printing via a specific menu bar, a simple top print toolbar and a bottom navigation toolbar.



By using the bottom **navigation toolbar** it is possible to navigate though all the pages, also by entering a specific page number.

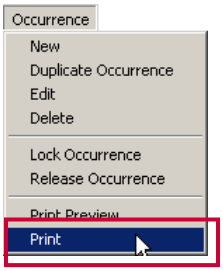


The **print preview menu bar** allows to control all the preview and print functions, preview zoom included, and to recall information on the program via its **Help → About…** menu-item (see page 10-8 for details on the information displayed).



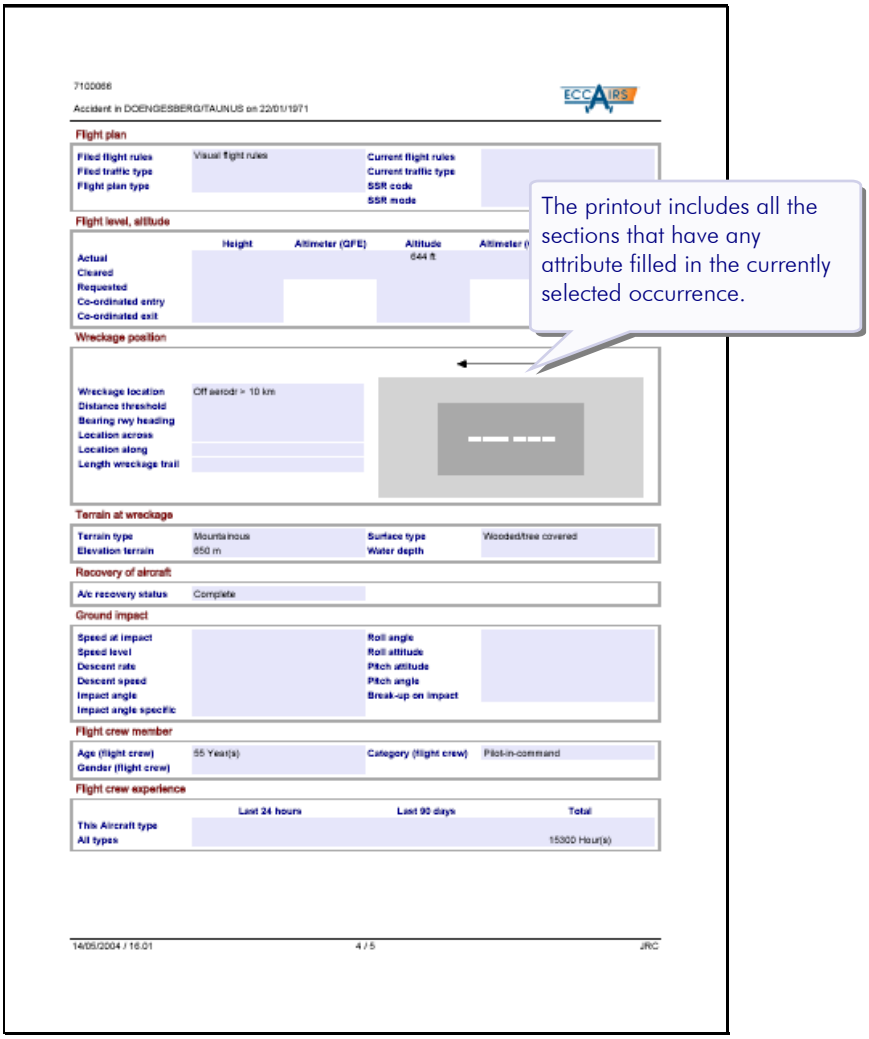
The print toolbar allows to print the currently displayed page or all the document.

PRINTING OCCURRENCES



The menu bar item **Occurrence → Print** allows to print all the occurrence sections that have been filled-in for the currently selected occurrence. The same function can be invoked by pushing the print icon-button in the toolbar.

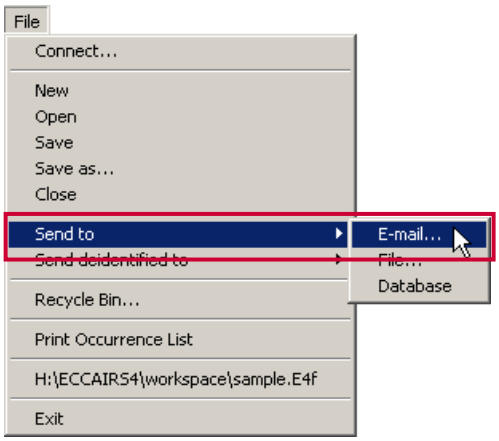
The detail level of event descriptions, both to be printed and displayed, is customisable (see page 5-4).



The standard Windows print dialog is invoked so that any other installed printer can be specified, beyond the default ECCAIRS printer proposed as pre-selected choice, before actually issuing the print command with the **Print** button.

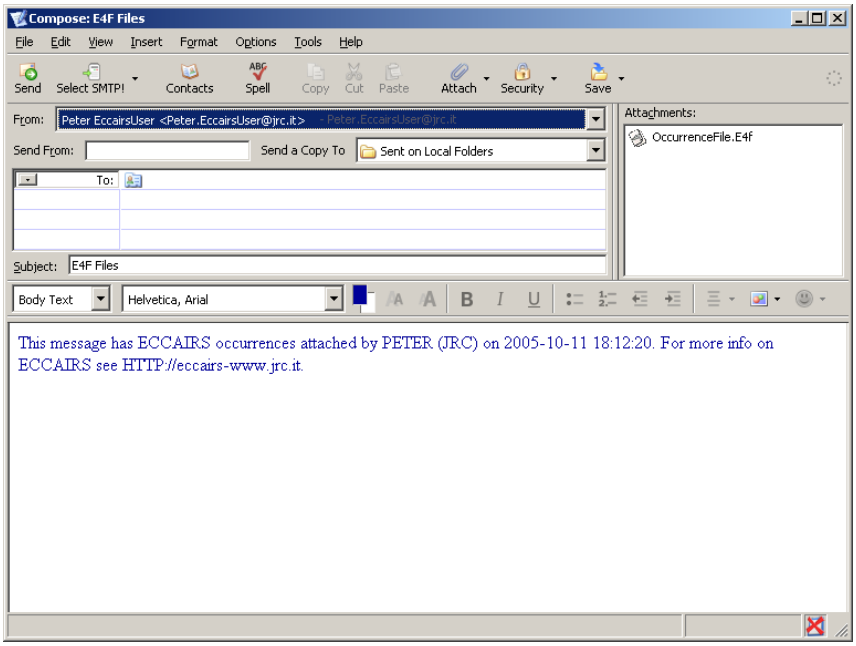
SENDING OCCURRENCES AS E-MAIL

It is possible to send selected occurrences also as an attachment to an E-Mail. To do this, select the required occurrences and select File →Send to→ E-mail... menu-item or the corresponding toolbar item.



The MAPI-compliant mail client program, currently defined as default within in the operating system (e.g. Outlook Express, Eudora, Pegasus, Mozilla/Netscape Mail, Thunderbird, etc.) is invoked.

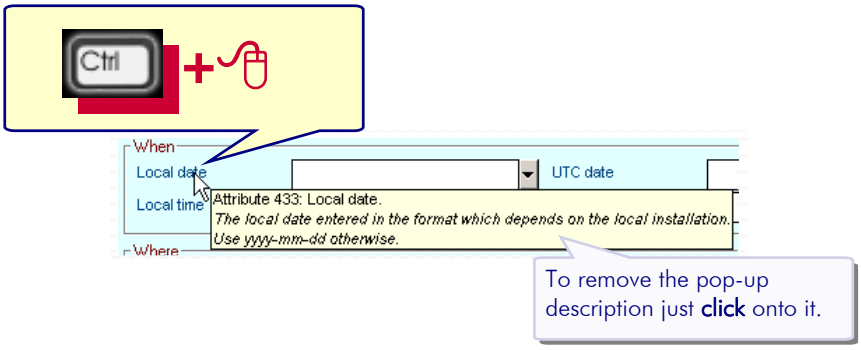
The message body is filled with a pre-typed test, including date, time, current ECCAIRS operator and related organisation, and the selected occurrences are grouped and attached as an E4F file.



FINDING DEFINITIONS AND DESCRIPTIONS

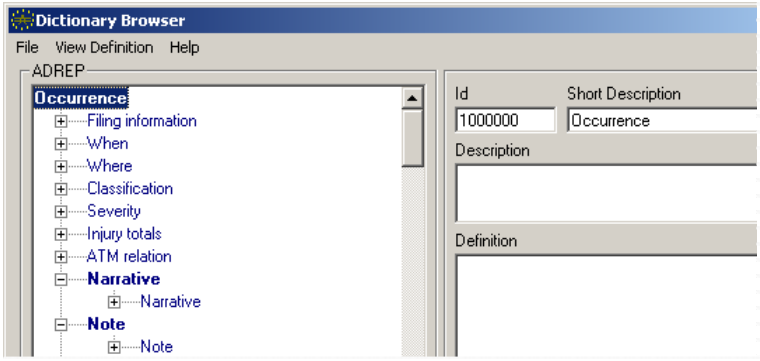
ECCAIRS Browser provides a useful feature for recalling ICAO section and attribute coding and definition, both in the reading (browsing) and in the editing phases.

To display ICAO attribute/sections codes and their definitions hold down the [CTRL] key while clicking ([CTRL]+click) onto the section or attribute name in the Information Pane (both in view and edit mode).



The same mechanism can be used to obtain descriptions and definitions of attribute values in view mode, by [CTRL] + click on already filled-in attribute values. This holds for values chosen from pre-defined lists and not for text/numerical values entered (typed) directly by the user.

Detailed information on topics, sections and attributes, including values allowed for the attributes, can also be obtained via the Dictionary Browser, which can be started selecting Help → Dictionary Browser… See page 17-1 for further details.

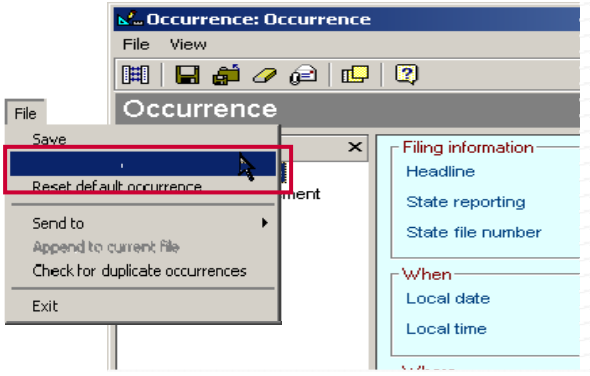


OCCURRENCE TEMPLATE

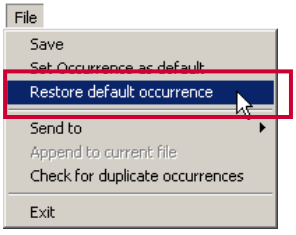
Whenever you are editing an occurrence you can decide to save it as your personal default occurrence.
This is the most convenient way to set, for example, your organisation as the default organisation or your country as the default state reporting.

Every time a new occurrence is created (see page 9-4) the attributes values saved in the occurrence template are pre-set in the new occurrence by default.

To set an occurrence as the default occurrence select File → Set occurrence as default while editing an occurrence in the Occurrence Edit window (see page 9-6).

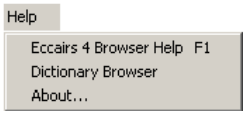


To step back to the system default occurrence template (empty template – no attributes pre-set), select File → Restore default occurrence menu-item within the Occurrence Edit window.

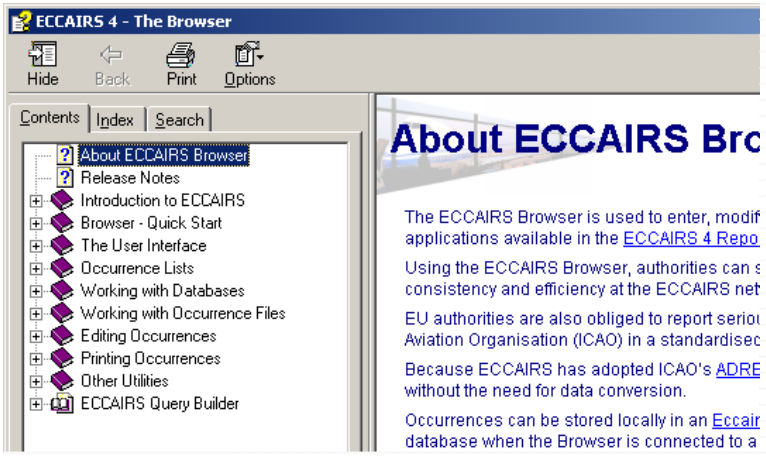


HELP AND SYSTEM INFO

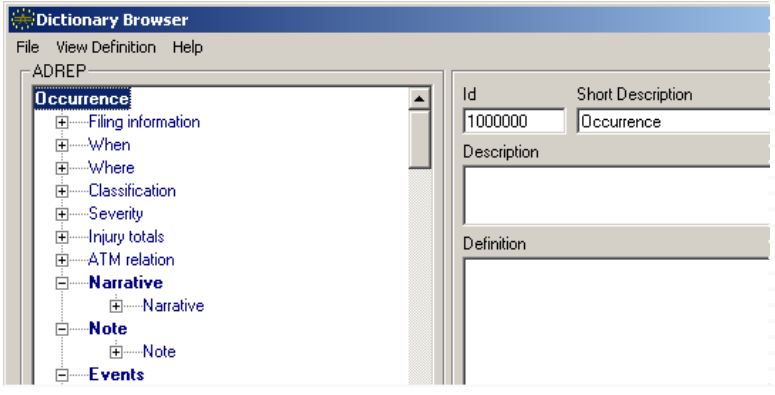
The **Help** menu has three items:



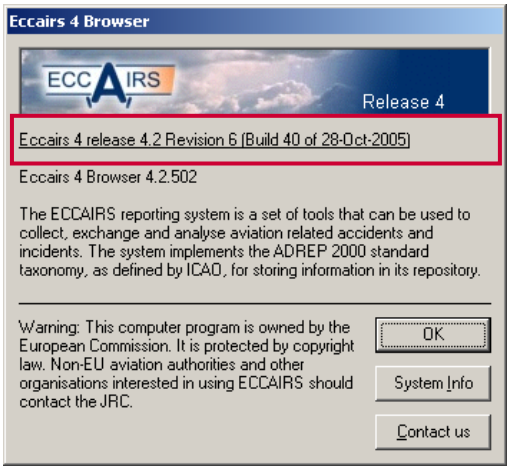
☑ **Eccairs 4 Browser Help F1** menu-item and the **[F1]** keyboard key both invoke the standard Windows help support.



☑ **Dictionary Browser...** starts the Dictionary Browser, which can be useful while editing queries and selecting attributes.
See page 17-1 for details.



☑ About… displays a dialog whose upper pane contains information about the software version in use.



OK closes this dialog window.

System Info recalls the system application which gives information on hardware and software configuration of the user computer.

Contact us allows to send mail to the ECCAIRS development team by invoking the user mail client program (i.e. the program currently defined as the default mailer e.g. Outlook Express, Eudora, Pegasus, Mozilla/Netscape Mail, Thunderbird, etc.) with the correct address already filled in.

PART 3
THE ECCAIRS GRAPHER

11 CREATING GRAPHS WITH THE ECCAIRS GRAPHER

12 SETTING THE GRAPH PROPERTIES

13 3D GRAPHS AND OTHER FUNCTIONS

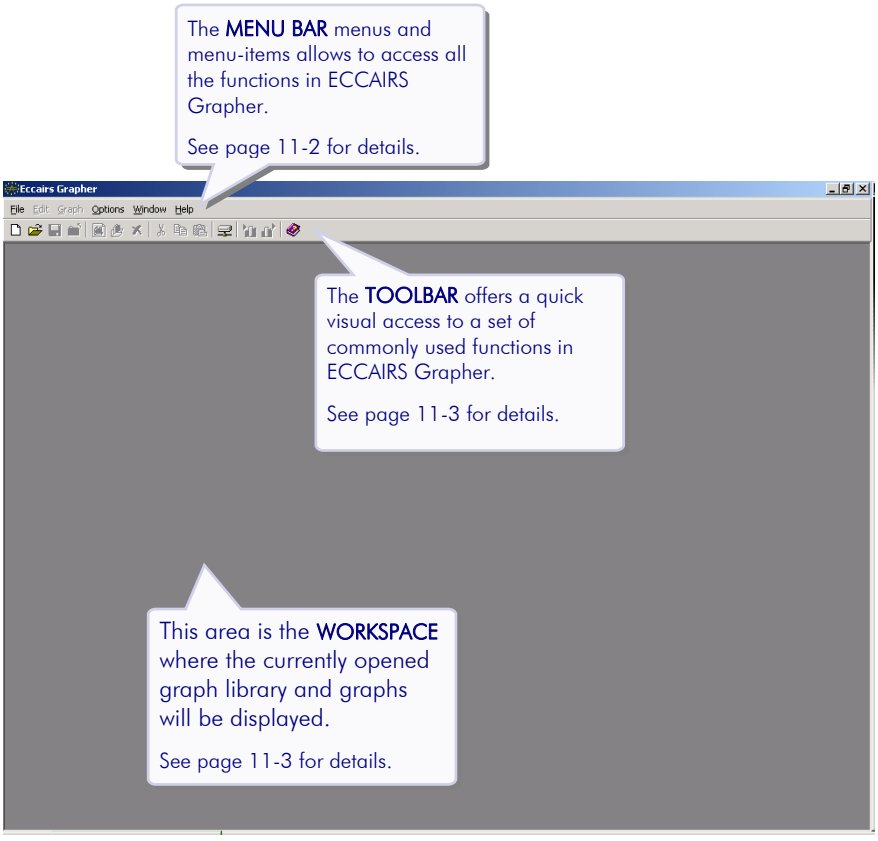
14 THE DATA-GRID BEHIND THE GRAPH

11 Creating graphs with the ECCAIRS Grapher

Starting ECCAIRS grapher

The ECCAIRS Grapher application is used to produce information in a graphical form.

Information is taken from the ECCAIRS database through a query and displayed on the screen in a graphical representation.
Starting the ECCAIRS Grapher (see Starting an application, page 3-2) its main window will show up.

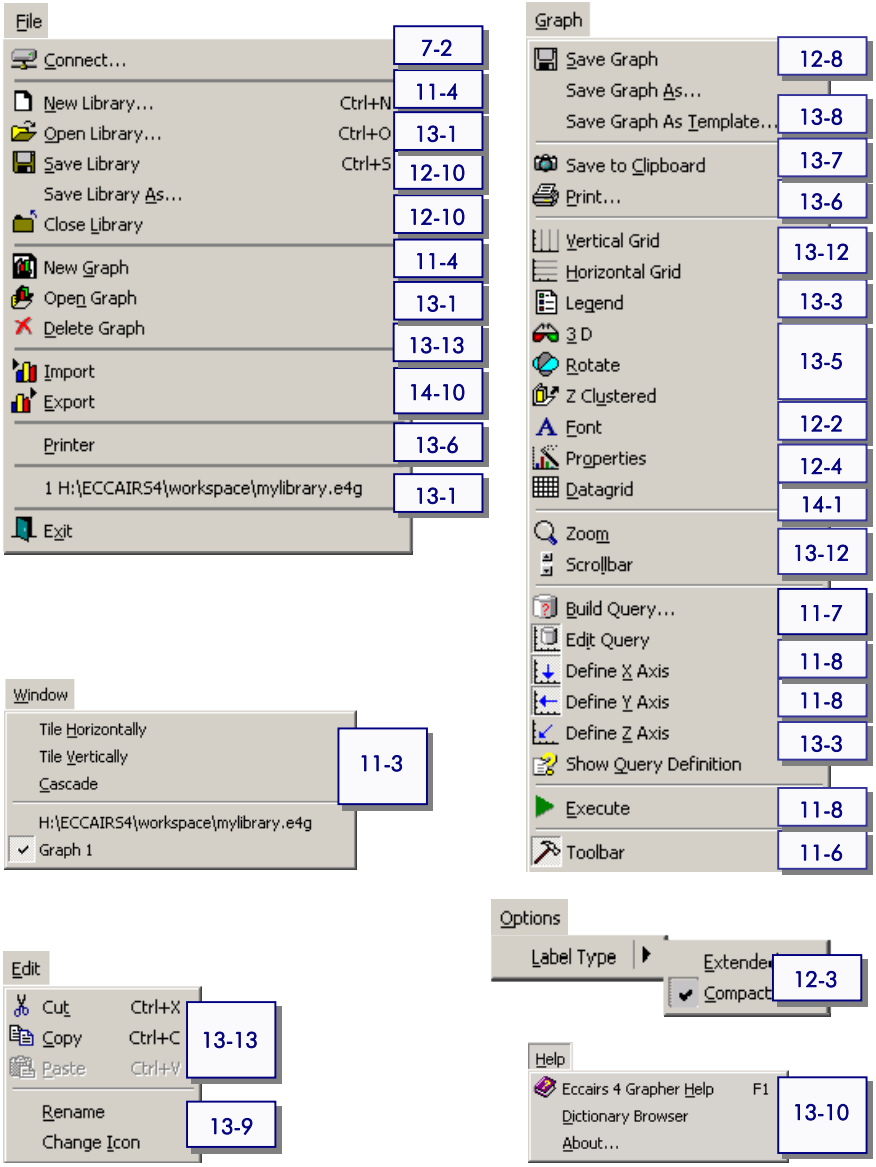


MENU BAR OVERVIEW

The six ECCAIRS Grapher menus in the menu bar are shown here.

File Edit Graph Options Window Help

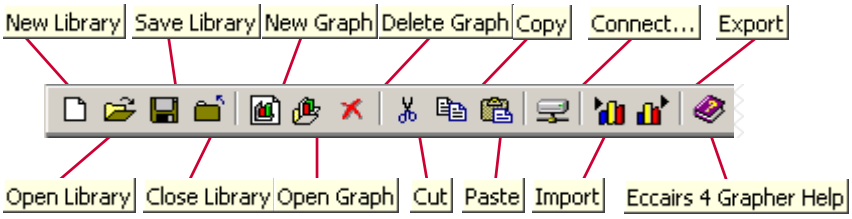
All the menu-items are displayed below, menu by menu.
The numbers reported side of each menu-items refer to the main manual page(s) where the corresponding function is illustrated.



TOOLBAR

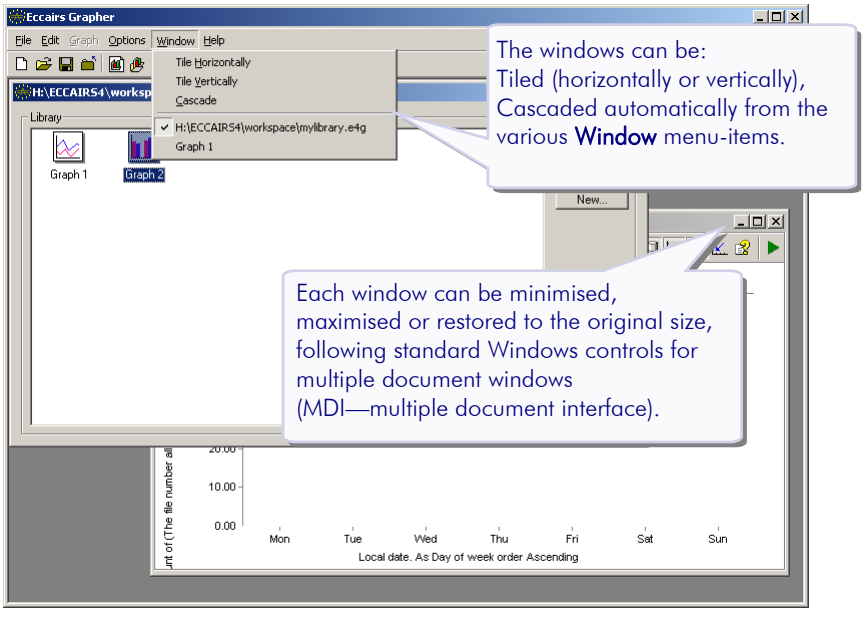
The ECCAIRS Grapher toolbar provides shortcuts to the most used menu-items related to the ECCAIRS Grapher Library (see page 11-4).

Positioning the mouse cursor over each toolbar item displays, after a short pause, a short description (tool-tip). In the picture below all these tool-tips are shown at once.



MULTIPLE DOCUMENT WORKSPACE

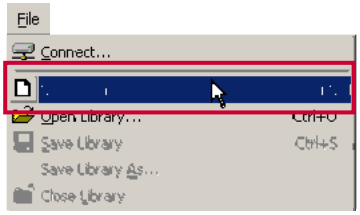
The ECCAIRS Grapher application can manage several documents at a time. It is actually its **Workspace** which may host Multiple Documents, i.e. the currently opened Graph Library as well as all the Graphs opened from this Library.



CREATING A NEW GRAPH

If not yet connected, connect to a database (File → Connect, see page 7-2).

1



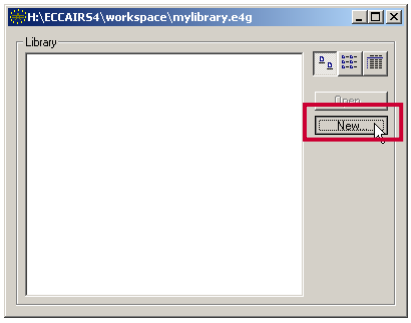
The ECCAIRS Grapher application organises its graphs in graph libraries, just as queries are organised in query libraries.

To create a new graph library either:

- ☑ Select File → New Library from the menu bar or
- ☑ Push the corresponding icon-button in the toolbar.

The Grapher will ask the user to save the newly created library when either the Lirary window is closed or the Grapher itself is closed. See page 12-8 for details.

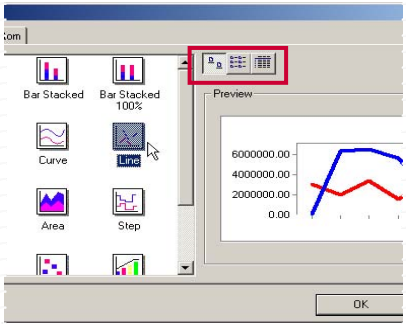
2



A Library window appears inside the main window. To create a new graph within the library either:

- ☑ Push the New button in the Library window or
- ☑ Push the New Graph toolbar icon in the Grapher window
- ☑ Select File → New Graph menu-item in the Grapher window.

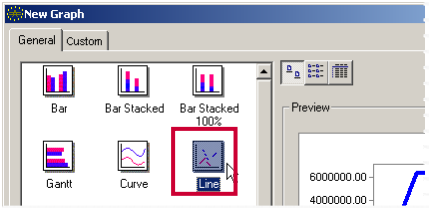
3

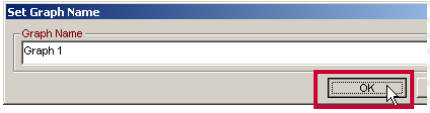


The New Graph window allows to select the type of graph needed from a set of templates listed as icons and names in the left pane. A preview of the currently selected graph is shown in the right pane.

Three icon-buttons on top of the preview pane allow to display the graph template list with different views.

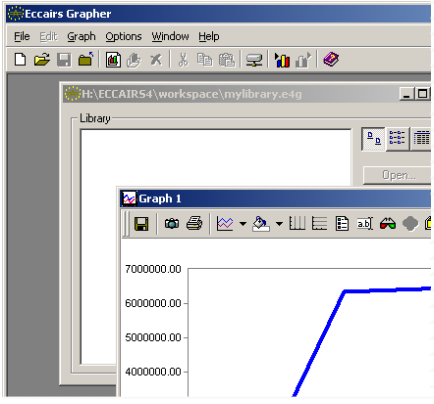
4





For instance, select the **Line** graph template from those listed in the **General** tab, then confirm by either **double-clicking** onto it or pushing the bottom **OK** button.

After selecting the graph template ECCAIRS Grapher asks for the new graph name. A default unique name is proposed (**Graph n**, with n=1, …). Press **OK** to confirm.



Press the **OK** button to confirm.

The new graph window is displayed, with a sample graph already traced.

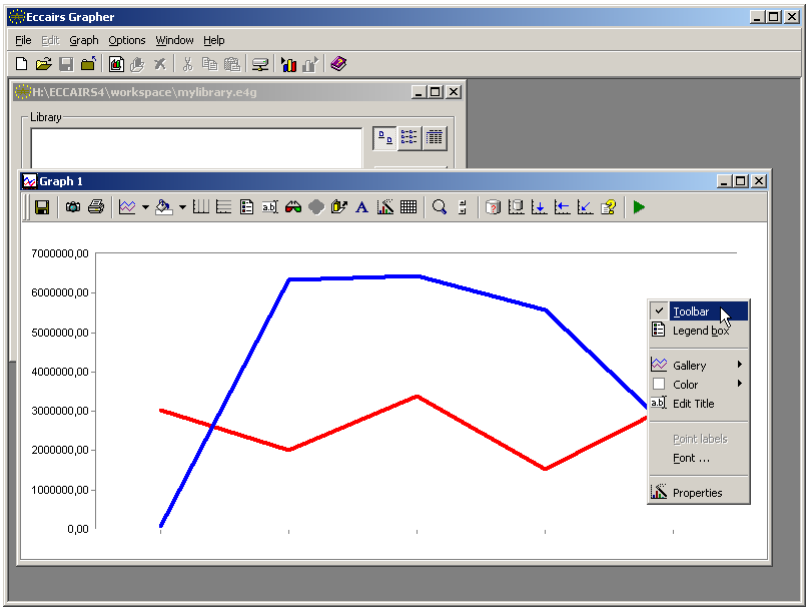
The sample graph has the given new graph name shown in its caption.

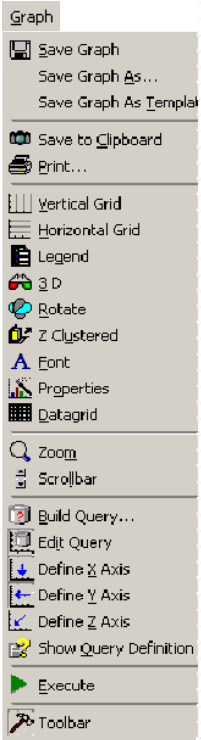
In addition to the general "standard" graph templates proposed, the user can define his own custom graph templates.
See page 13-8 for details.

5

THE GRAPH WINDOW

Initially, before any query has been run to extract data to be plotted, the graph window contains only exemplary curves (or other plots) already traced.





The content and the aspect of the graph can be controlled via either:

- ☑ The Graph menu-items of the ECCAIRS Grapher (shown aside)
- ☑ The toolbar in the graph window (shown below).

The Graph toolbar is normally shown in the top of the graph window, but may be both detached from the graph window if dragged away (and re-docked subsequently) and displayed or hidden through the main menu **Graph → Toolbar** item or via the Graph window **"Right-click menu"→ Toolbar** item.

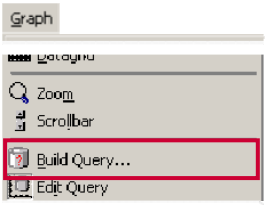
In addition specific display properties can be set in a contextual way by right-clicking on many elements of the chart and selecting items of the corresponding contextual menus displayed.

CHAPTER 11

SETTING THE GRAPH QUERY

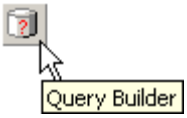
The ECCAIRS Grapher application produces graphs out of information extracted from the ECCAIRS database through a query.

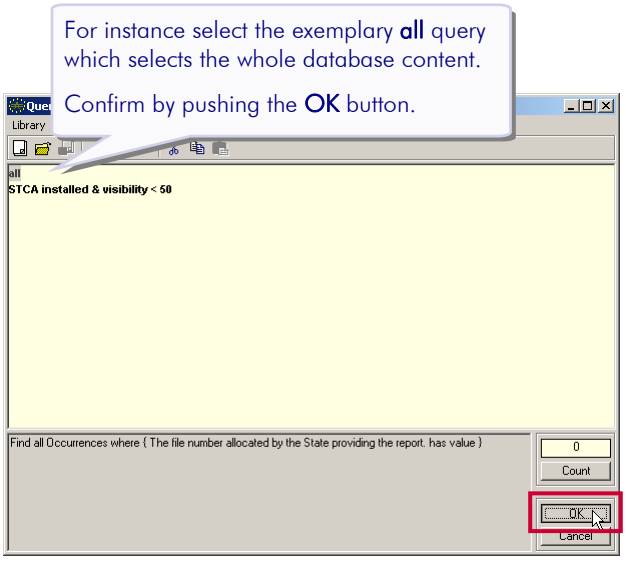
Select **Graph → Query Builder** from the menu bar or via the corresponding icon in the graph toolbar.



This invokes the Query Builder window that has already been described with the ECCAIRS Browser (see page 7-8).

The Query Builder opens the last used query library.



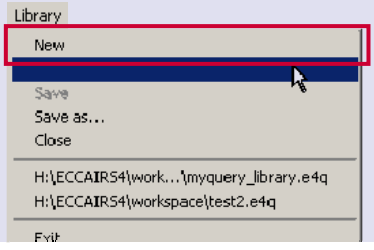


An "**all**" query can be set easily by requiring that one of the occurrence mandatory attributes (e.g. **Date entered**) has been assigned a value.

Since this is true for each occurrence, the query selects all the occurrences in the

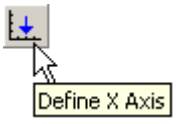
{
Date entered. has value
}

OPENING QUERY LIBRARIES

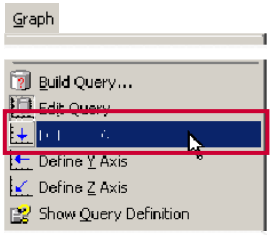


*If you like the Query Builder to open another library, select **Library → Open** from its menu bar, use the Open browse window to locate and select the file containing the requested library and click on the **Open** button.*
One of the most recently used libraries listed in the Library menu can also be selected instead.

SETTING VARIABLES AND TRACING THE GRAPH



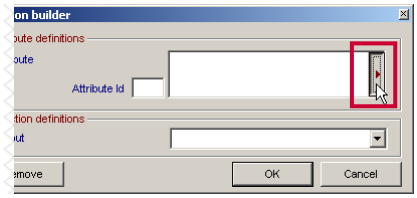
1

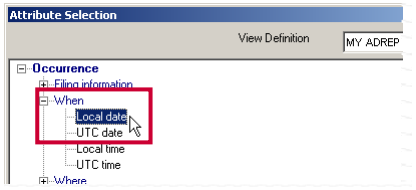


The next step is to define the occurrence attributes to be plotted on the axis and their format and aggregation mode.
In the following sample graph we will plot the distribution of occurrences by day of the week.

This is done by selecting **Graph → Query Define X Axis** (or the corresponding graph toolbar icon).

2

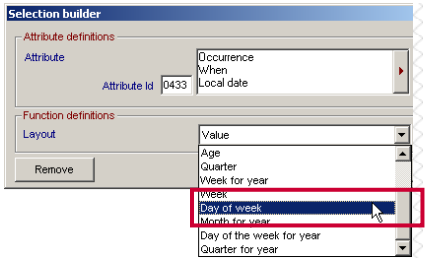




In the Selection Builder dialog select the right arrow in the attribute pane to invoke the dictionary hierarchy and the tree-navigation window.

Browse and choose the **Local date** attribute.

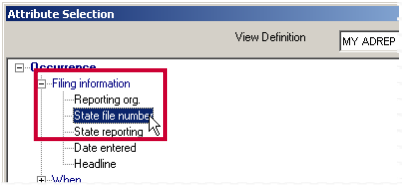
3

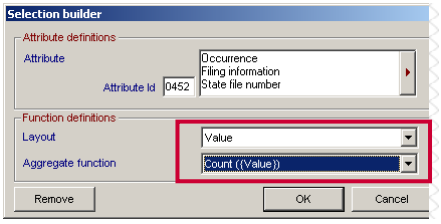


Choose **Day of week** as layout in the **Function definition** pane.

CHAPTER
11

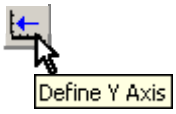
4



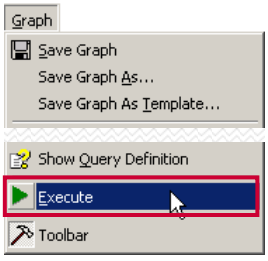


Repeat the same procedure with **Graph → Query Define Y Axis** with the **state file number** attribute.

Choose **Value** as Layout and **Count ({})** as Aggregate function.

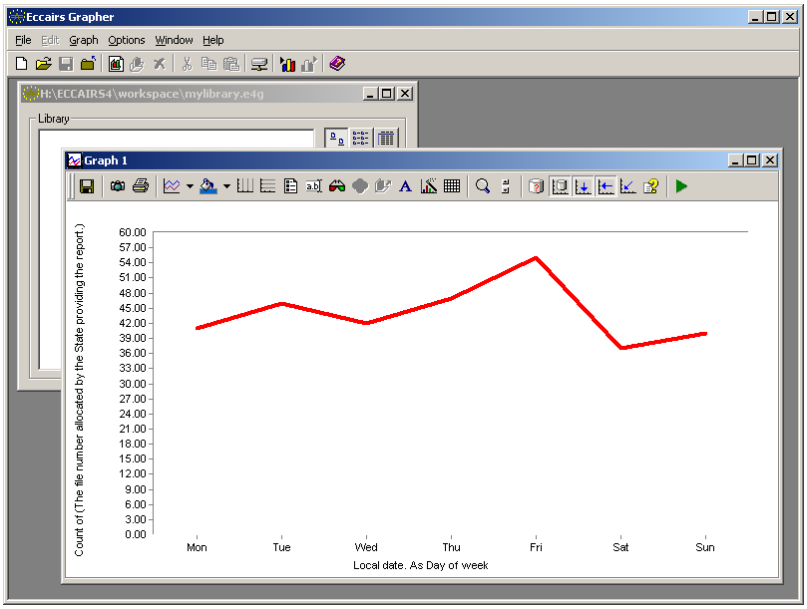


5



Once the query and axes are set, the graph can be drawn by selecting **Graph → Execute** or the corresponding graph toolbar icon.

Default title and legends, colours and graph properties are used.



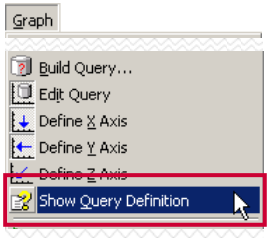
The **state file number** attribute has been used to count occurrences (on the Y axes) since all occurrences have it defined because it is mandatory.

12 Setting the graph properties

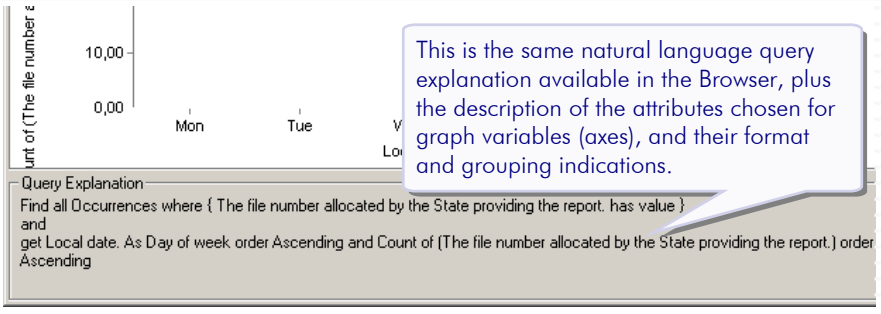
Graph title and query explanation

In this chapter the visual properties of a sample graph will be refined. This will allow to explore some of the ECCAIRS Grapher display functions and graph library close/save functions.

Right-click within the Graph 1 window (or whatever graph/window name was given to the sample graph illustrated on page 11-4) and select **"Right-click menu"→ Edit Title** (or the corresponding graph toolbar icon-button): the text cursor will be put on the title area in the graph. Enter a suitable title for the graph, for instance "**Distribution of Occurrences by Day of the Week**".

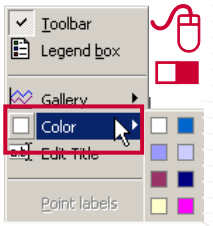


Clicking the **Explanation** icon or selecting **Graph → Show Query Definition** in the menu bar an explanation of the current query associated with the graph is displayed in the Query Explanation box below the graph.



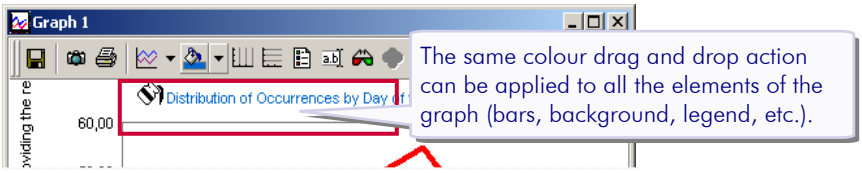
If **Show Query Definition** has been enabled, the natural language explanation will be also included when printing the graph.

TEXT FONTS AND GRAPH ELEMENTS COLOURS

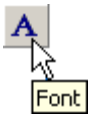


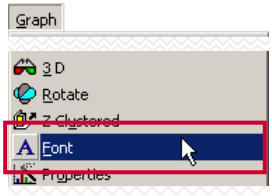
Select the "drop colour palette" at the right of the colour icon and then pick a colour from the palette. The "**Right-click menu**"→ **Color** menu-also allows to select a colour.

Select the drop colour icon (showing the currently chosen colour) and drag and drop it onto any of the graph item, for instance, the graph title.

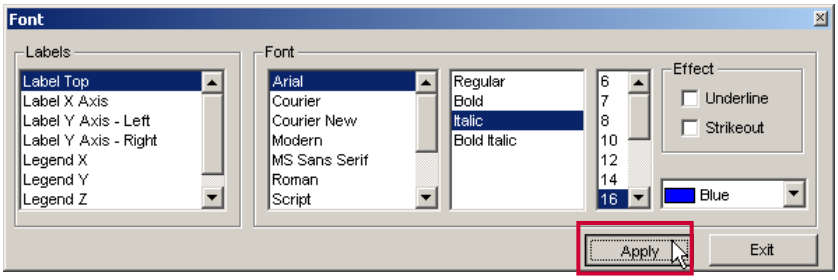


Colour functions are not available in main menu items.

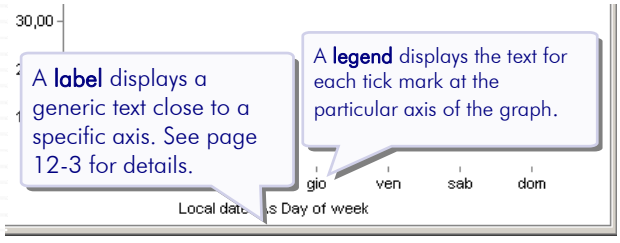




To change the font and style of text items select either the **Font** icon-button or **Graph → Font** menu-item. In the **Font** dialog window first choose the target label (or legends) and then the text properties to associate. Confirm the choice with the **Apply** button.



Selecting any textual graph element with "**Right-click menu**" → **Font**….brings up a different, detailed, Font dialog for that specific element.



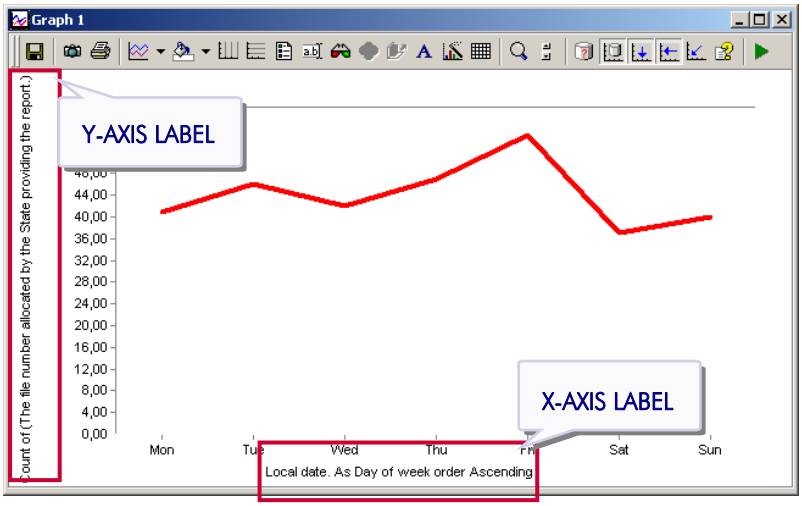
Click on **Exit** button to close the Font dialog.

If **Apply** has not been selected before , then all the choices made are ignored.

GRAPH LABELS

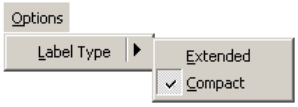
A label displays a generic text close to a specific axis.

ECCAIRS Grapher automatically build descriptive labels from the attributes and layout function definition chosen for each axis.



Label Type option

For those attributes where a multilevel value structure exists it is sometimes difficult to understand exactly the meaning of the value at the lowest level since it is normally derived from the hierarchical path leading to the value. In these cases it is necessary, even if it results in long strings, to print in the graph the long description of the attribute, not only the lowest level.



To force graphs to use long descriptions select **Options → Label Type→ Extended**.

Otherwise select **Options → Label Type → Compact**, which is the default setting).

CHART PROPERTIES: OVERVIEW

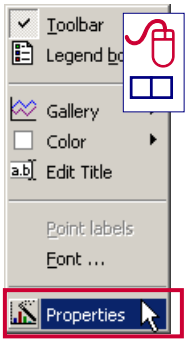
The **Graph → Properties** menu-item and the corresponding icon in the toolbar open the Chart Properties window. Chart properties are divided in four different groups indicated by the four cards in the properties window: **General**, **Series**, **Axes** and **3D**.

Users are encouraged to experiment with all these four chart aspects.

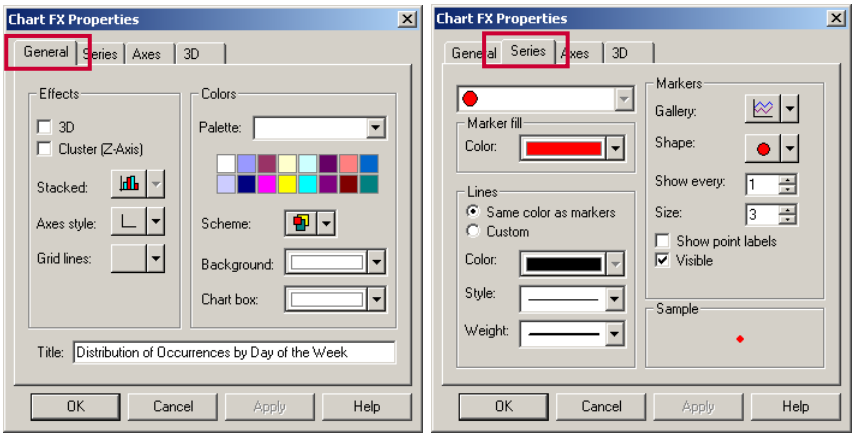
Some examples of their specific usage can be found on:

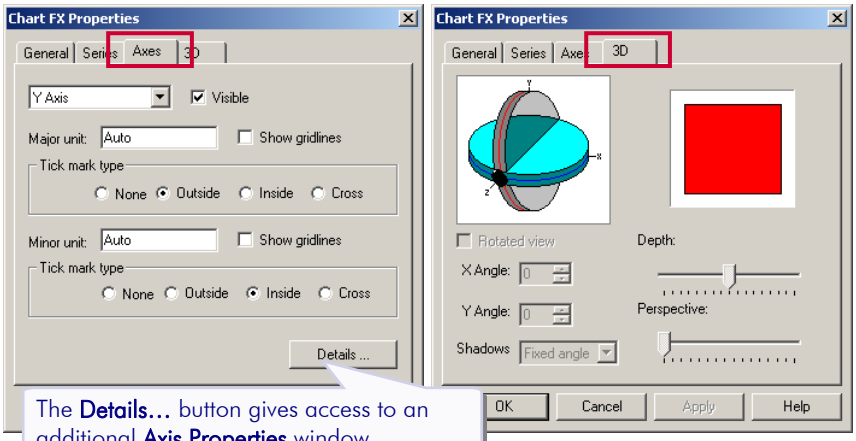
- ☑ page 12-5 (General and Series)
- ☑ page 12-6 (Axes)
- ☑ page 13-5 (3D).

The Chart Properties window can also be invoked by positioning the mouse on the graph background area and select "**Right-click menu**" → **Properties** .



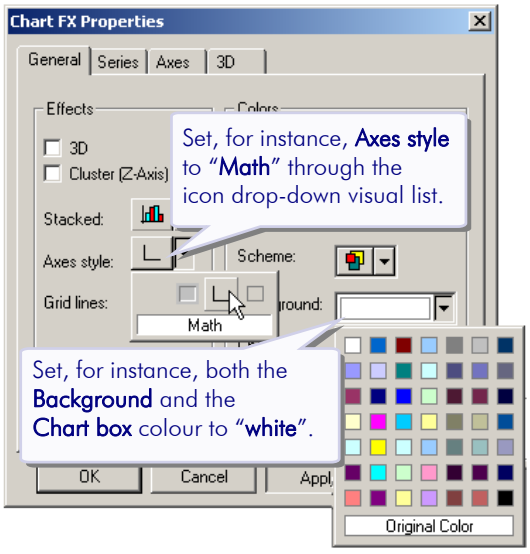
Double-clicking. On the graph elements also invokes the Chart Properties window.





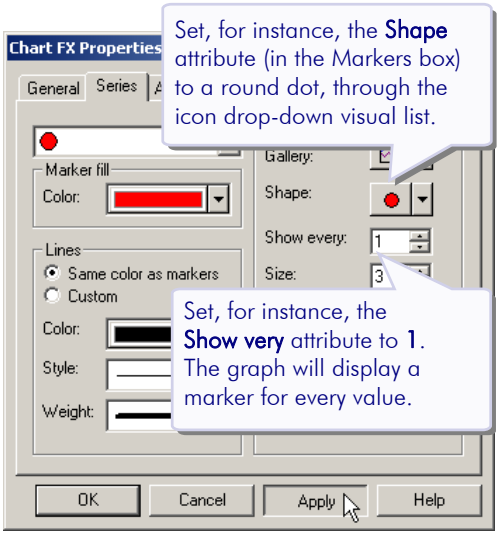
The **Details...** button gives access to an additional **Axis Properties** window displayed in page 12-6.

CHART PROPERTIES: GENERAL, SERIES



The **General** properties card is used to change effects and colours.

Some sample settings are shown here.



The **Series** card is used to set features for each particular (or all) data series.

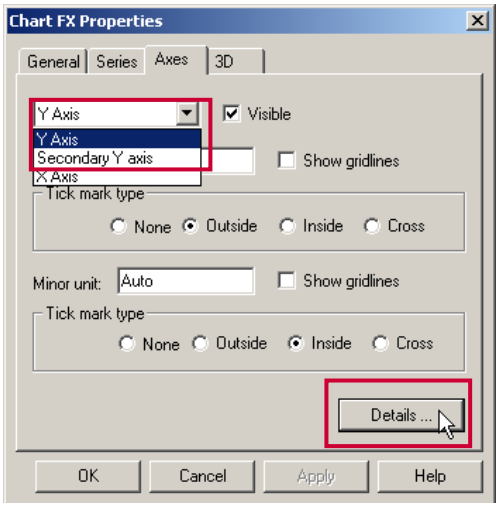
Some sample settings are shown here.

Remember to confirm the choices by pushing the **Apply** button.

CHART PROPERTIES: AXES

The Axes properties card allows to control display properties associated to each of the graph axes.

Axes

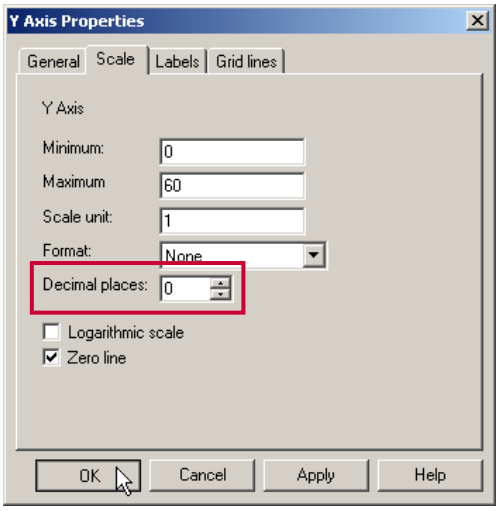


Some sample settings on the Y Axis (selected by default) are shown here.

Click on the Details... button which invokes in turn another multi-tab window dedicated to Axis Properties.

These is for each axis a main Axes tab-card plus 4 separate detailed setting cards (see page 12-6) within the Axis Properties multi-tab dialog window:

Scale



- ☑ General
- ☑ Scale
- ☑ Labels
- ☑ Grid lines.

Select, for instance, the Scale card.

Axes → Y Axis → Scale

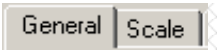
Change the Decimal places attribute to 0, so that no decimals will be displayed.

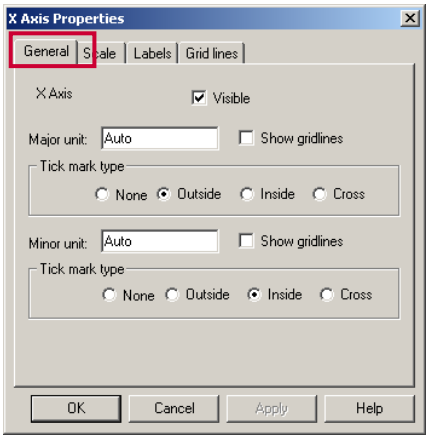
This makes sense in the sample graph used in these chapters, since the Y axis hosts occurrence counts, which are of course integer values.

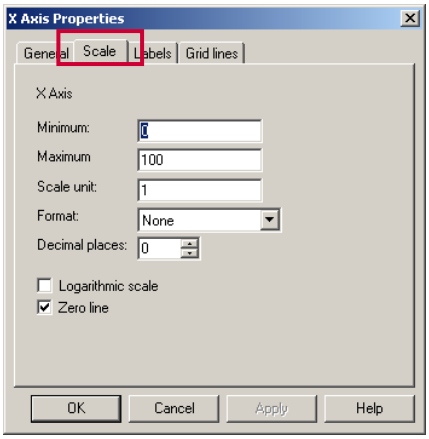
Axes properties: other panes

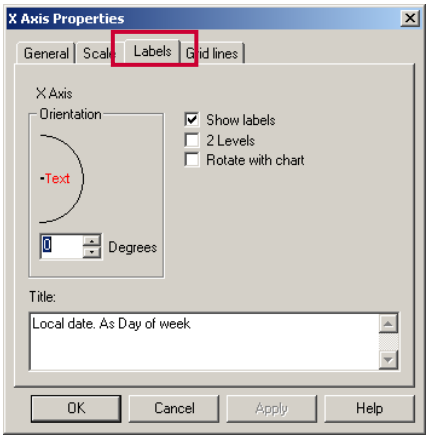
In the Axis Properties multi-pane window there are also a number of other feature controls which allow to control of x/y/z axis properties.

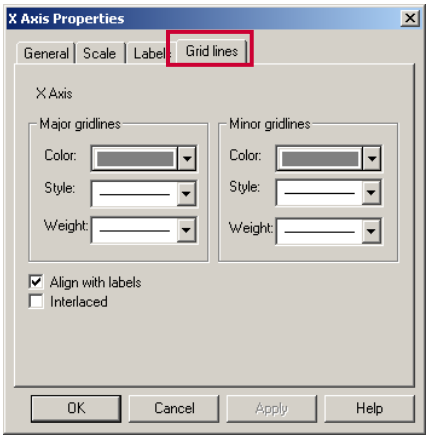
Apart from what is shown on the previous page, the graph feature controls will not be described, but they are reasonably self-descriptive so we just show them below and encourage the user to experiment.









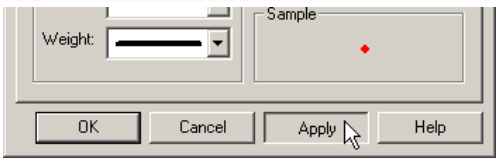


SAVING THE GRAPH AND THE LIBRARY

Applying chart settings

The Apply button of the Chart Properties window is used to confirm the choices without closing the Properties dialog.

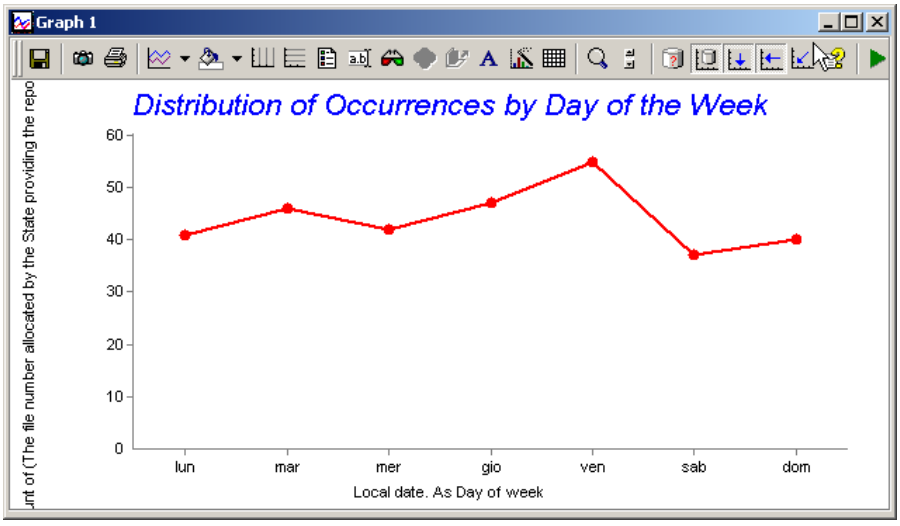
The OK button also confirms the choices made but closes the Properties (or Axis Properties) dialog window.



So to apply the sample settings described in the previous sections of this chapter and close the properties dialog window(s):

1. Confirm pushing the OK button in the Y Axis Properties window
2. Confirm again pushing on the OK button in the Chart Properties window.

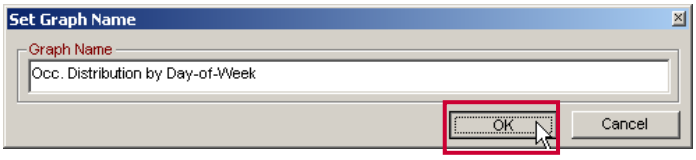
The graph displayed will reflect the modified properties.



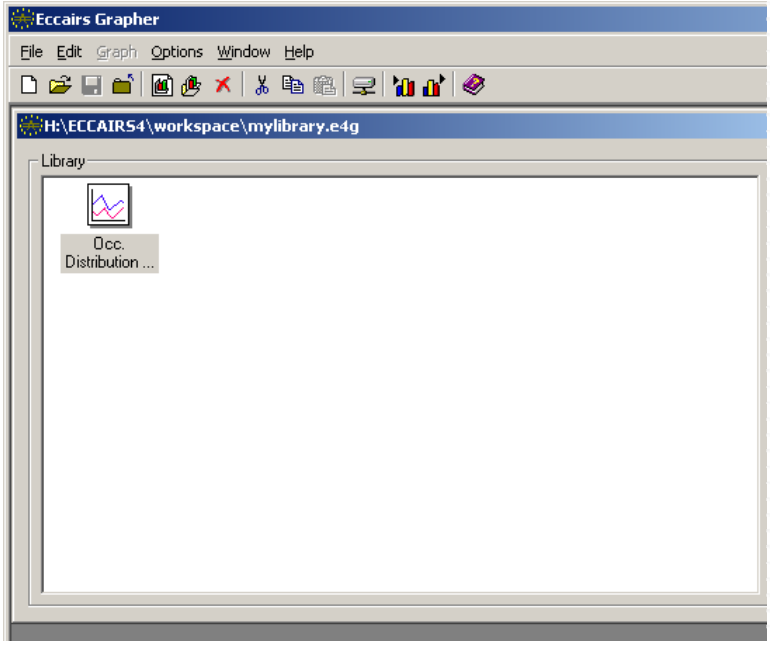
Saving the graph

To save the graph with a more significant name select **Graph → Save Graph As…** .
Please note that there is no corresponding graph toolbar icon for this command.

In the Set Graph Name window enter the desired name for the graph, for instance "**Occ. Distribution by Day-of-Week**", and push **OK** to confirm.

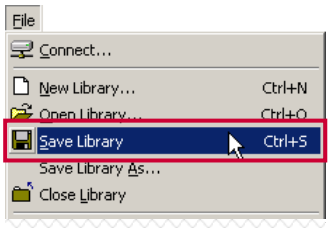


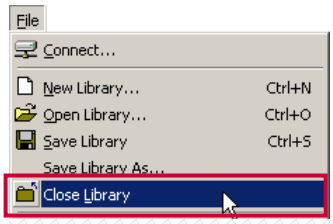
The icon with the new name of the new graph will be listed in the open library window as soon as the graph is plotted or refreshed (**Graph → Execute** menu-item or the corresponding toolbar icon).

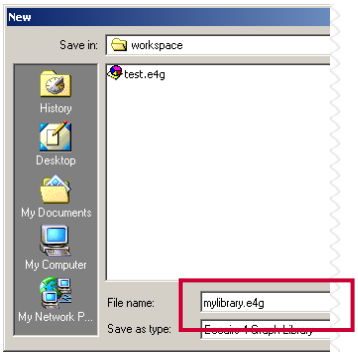


Saving and closing the graph library

To save and close the currently open graph library select File → Save Library and then File → Close Library menu-items (or their corresponding icons in the toolbar) in the main ECCAIRS Grapher window (i.e. not in the graph window).







In case the library has never been saved before, a New file browse dialog opens. Locate the folder where the library file will be saved (e.g. C:\ECCAIRS 4\workspace).
In the File name field type in a sound name for the new graph library, for instance mylibrary.

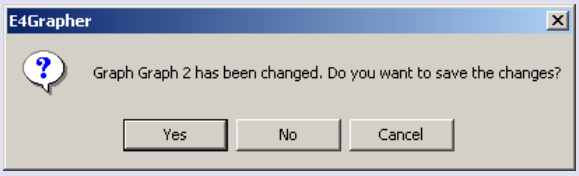
Confirm by pushing the Save button. ECCAIRS will save the file appending automatically the .E4g extension.

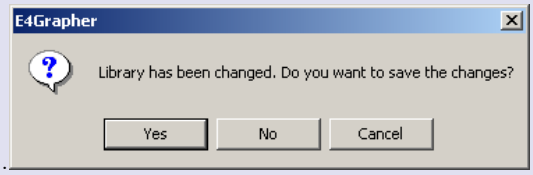
SAVE GRAPH AND SAVE LIBRARIES ALERTS

If the graph window is closed without before saving any modification made, ECCAIRS Grapher displays an alert dialog to remind the user to:

- *Save the changes (Yes button)*
- *Discard the changes (No button)*
- *Cancel the exit action and keep the graph open (Cancel button).*

The same applies to graph libraries (see related bottom picture on the right).

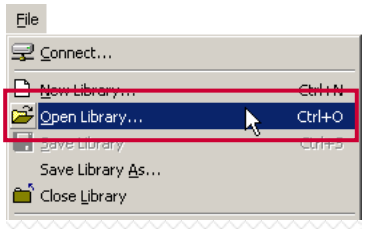




13 3D GRAPHS AND OTHER FUNCTIONS

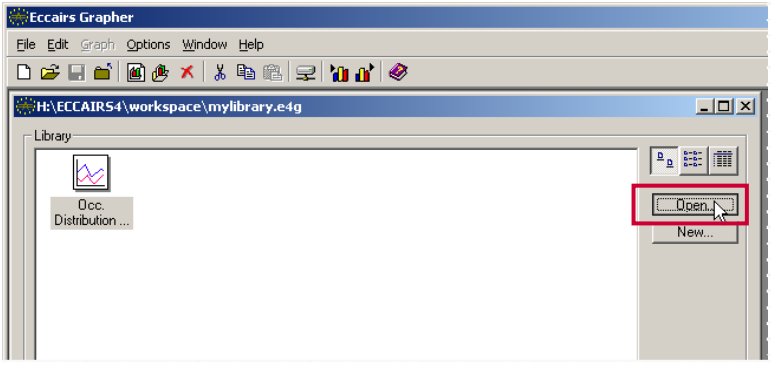
CREATING ANOTHER GRAPH

In this chapter we will extend the sample graph built in the previous chapters to include a third dimension by further distinguishing between the class of occurrences (accidents, incidents, …).



First open the previously defined graph: in the main Grapher window select File → Open Library... (or push the open library icon in the toolbar).

In the browse window displayed locate the destination/workspace folder you wish to use and select the previously saved graph library (see page 12-10).
Confirm by pushing the Open button.

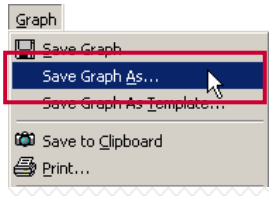


Now inside the library window displaying the graph library select the graph Occ. Distribution by Day-of-week and press the Open button or the open icon.
Alternatively it is possible to double-click onto the Occ. Distribution by Day-of-week icon.

The graph produced in the previous chapter of this manual is opened.

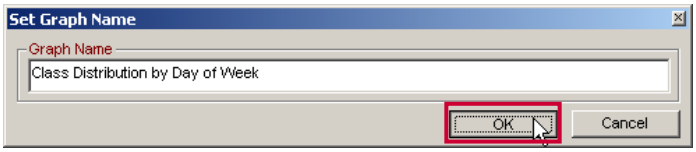
The previously accessed graph libraries (up to 4) can also be quickly opened by selecting them directly among the Most Recently Used file list in the lower part of the File menu.

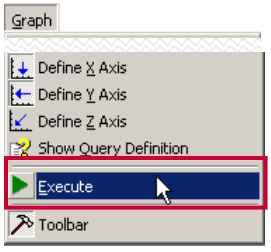
Since a number of features are going to be added here that will significantly transform the sample graph, it is appropriate to save it as a new graph with a different name:



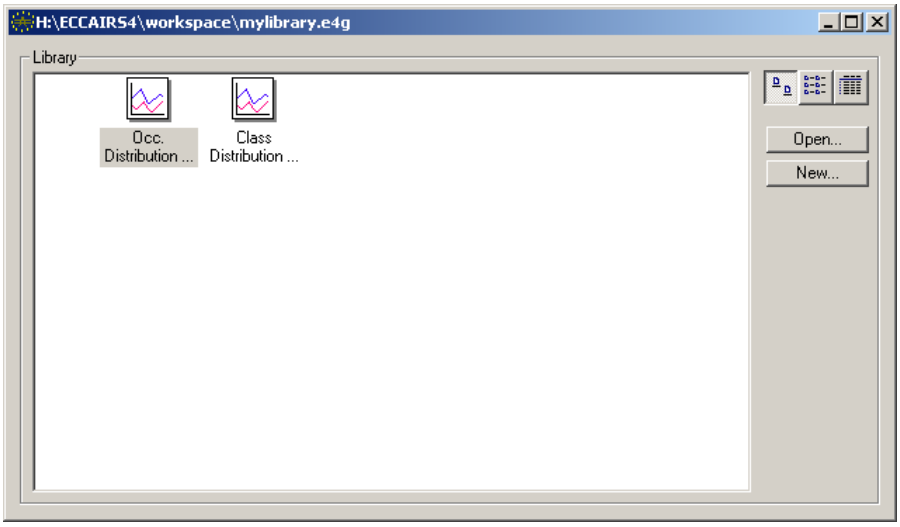
select Graph → Save Graph As...

In the Set Graph Name dialog that will be displayed, enter the name "Class Distribution by Day of Week".





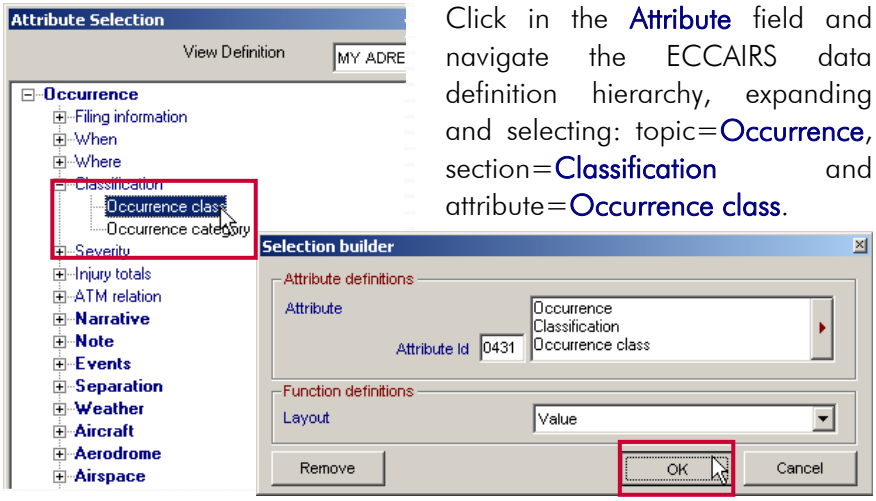
Before getting the new icon and name actually displayed in the library window, the graph must be plotted or refreshed (by Graph → Execute or the corresponding toolbar icon-button).



CHAPTER 13

DEFINING THE Z-AXIS

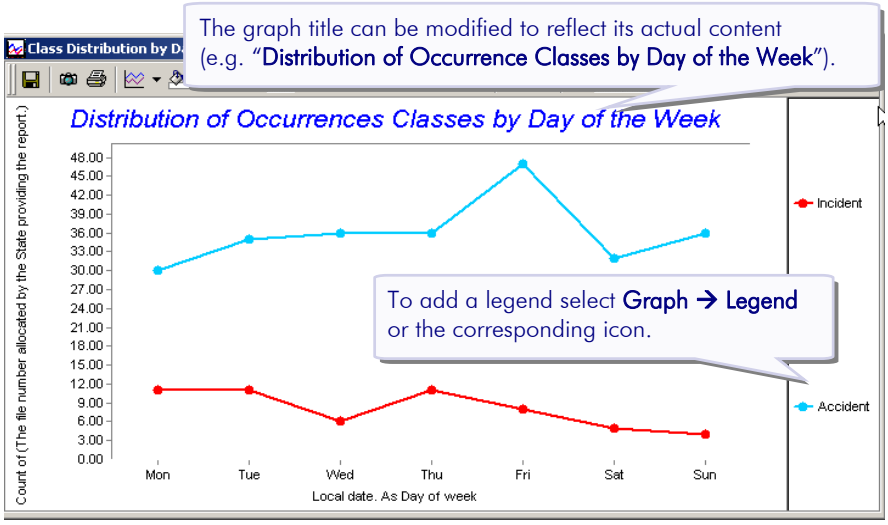
Select **Graph → Define Z Axis** from the menu or its toolbar button: the Z Axis Attribute window opens.



Click in the **Attribute** field and navigate the ECCAIRS data definition hierarchy, expanding and selecting: topic=**Occurrence**, section=**Classification** and attribute=**Occurrence class**.

The lower **Function definition** pane allows to display the values of the selected attribute in a specific Layout: the default choice (**Layout=value**) is appropriate. Confirm the choices with **OK**.

Populate and draw the graph by the **Graph → Execute menu-item** or the toolbar icon-button. The curves traced are now 2 (automatically drawn in different colours).



Define Z Axis

Execute

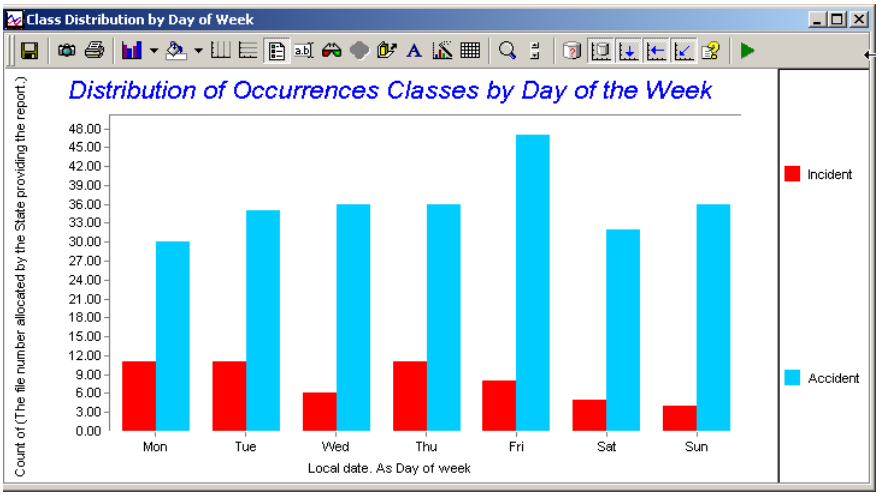
Edit Title

Legend

CHART TYPE AND 3D

Now a line chart is probably not the best choice to present the information in the exemplary graph built up to now.

To change the graph type select the graph gallery icon and then pick the **Bar graph type** from the palette showing up.



The same result may be obtained via **Graph → Properties** and the **Shape field** in the General graph properties card or **"Right-click menu" → Gallery** on the graph window background.

We can now add some visual impact to the graph by selecting **Graph → 3 D** from the menu bar or the corresponding icon in the toolbar.

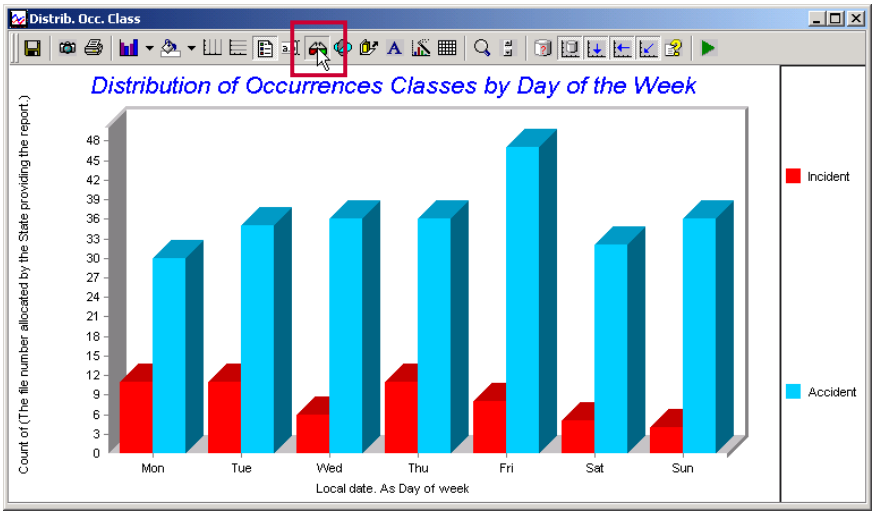
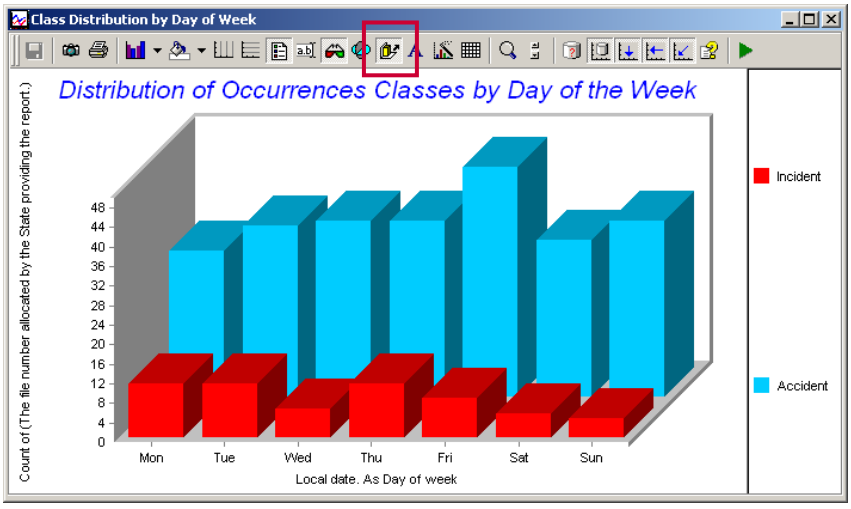
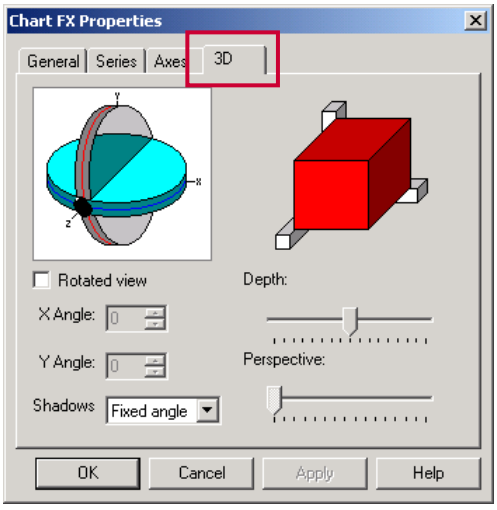


CHART PROPERTIES: 3D

A better view can be achieved using the 3D perspective view: select Graph → Z Clustered or the corresponding icon in the toolbar.



Selecting Graph → Properties menu-item or the corresponding toolbar icon displays the Chart Properties dialog. In its 3D tab-pane there are a number of additional 3D view parameters which can be set.



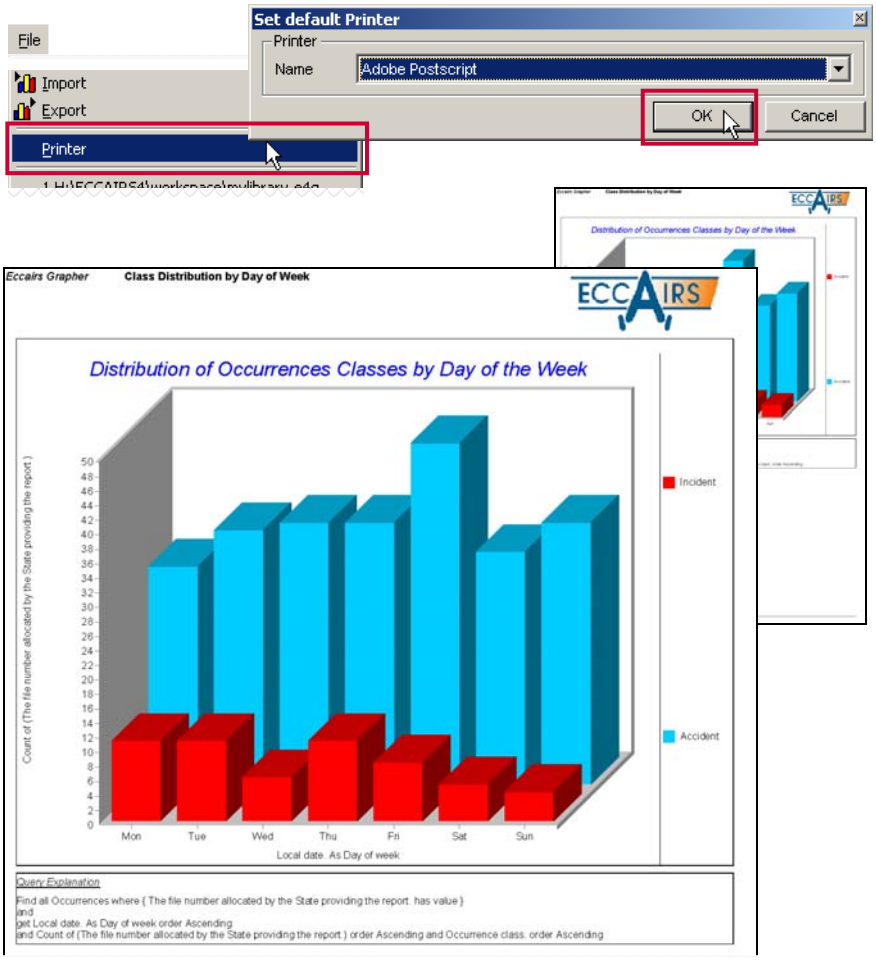
The 3D tab-pane can also be invoked directly from the Graph toolbar icon-button.

The Chart Properties window can also be invoked by positioning the mouse on the graph background area and either select "Right-click menu"→ Properties or just double-click.

PRINTING THE GRAPH

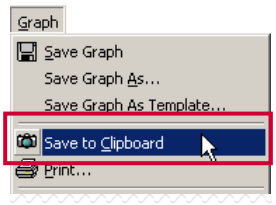
To print a graph, open it and select **Graph → Print** from the menu bar or the corresponding icon-button in the toolbar: the graph (and the query description, if displayed) is sent to the default printer.

The default printer can be set by selecting **File → Printer…** from the menu bar and choosing it in the dialogue displayed.



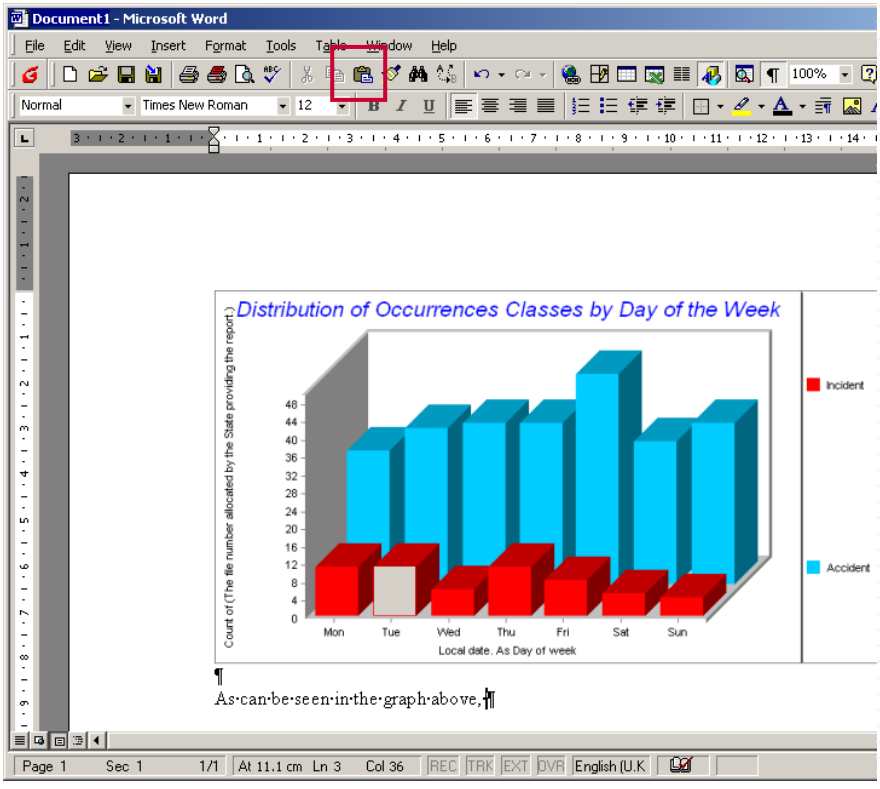
COPYING AND PASTING THE GRAPH

The graph can also be copied to the Windows clipboard and pasted to any other application accepting bitmap graphics (graphs are copied to the clipboard in raster format).



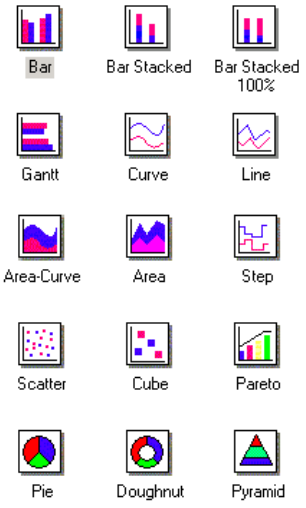
To copy the currently opened graph to the clipboard select **Graph → Save to Clipboard** from the menu or the corresponding icon from the toolbar.

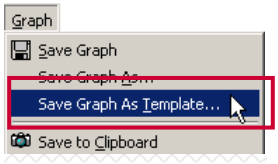
It is now possible to paste the graph in another application, for instance Microsoft Word .



GRAPH TEMPLATES

New graphs can be created from any of 15 predefined graph templates distributed with the application, shown here on the left.



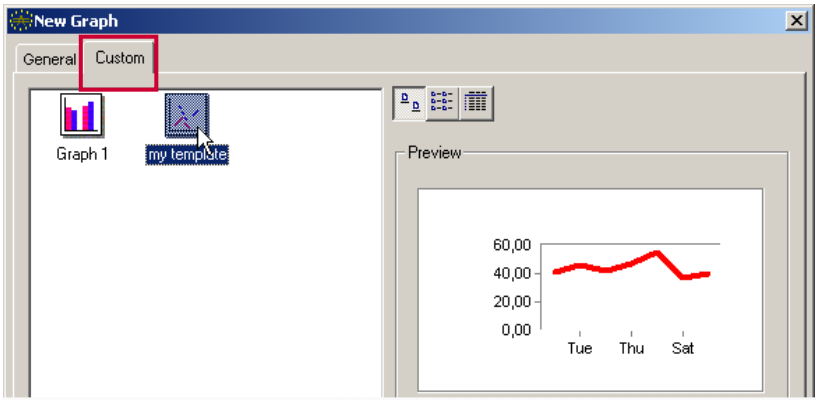


Also the user can create and use its own custom templates.

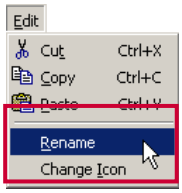
Any graph can be transformed into a custom template by selecting Graph → Save Graph as template... menu-item.

When a graph has been saved as a template it can be used as the basis for future new graphs by the user of the workstation.

When creating a new graph the user can click on the Custom Tab in the New Graph dialog and select the appropriate custom template.



RENAME GRAPH AND CHANGE GRAPH ICON

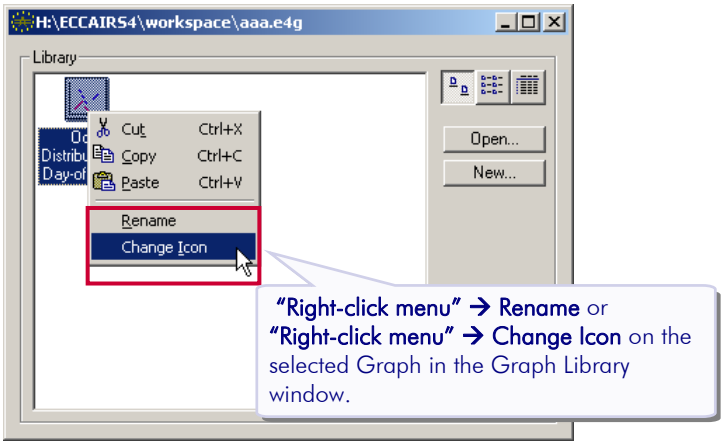


Each Graph, when it is created, is assigned an icon and a name.

It is however possible to change the Graph name and/or its icon at anytime.

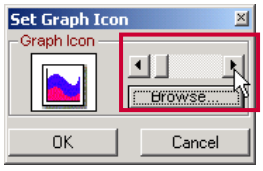
To rename a graph select it in the library and choose **Edit → Rename**. menu-item or **"Right-click menu" → Rename** contextual menu-item.

Renaming can also be performed by clicking on the graph name below the icon (rather than on the icon), and typing over or modifying the name.



To change a graph icon select it in the library and choose **Edit → Change Icon** menu-item or **"Right-click-menu" → Change Icon** contextual menu-item.

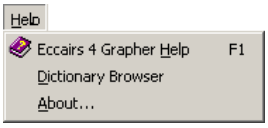
A **Set Graph Icon** dialog is displayed. Using the horizontal scroll-bar the available icons (i.e. those used for the standard graph template s available) can be previewed. The **OK** button confirms the choice, **Cancel** discards the choice.

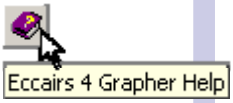


Custom icons can be used by pushing the **Browse...** button and selecting a suitable icon file (.ico files) through the standard browse dialog displayed.

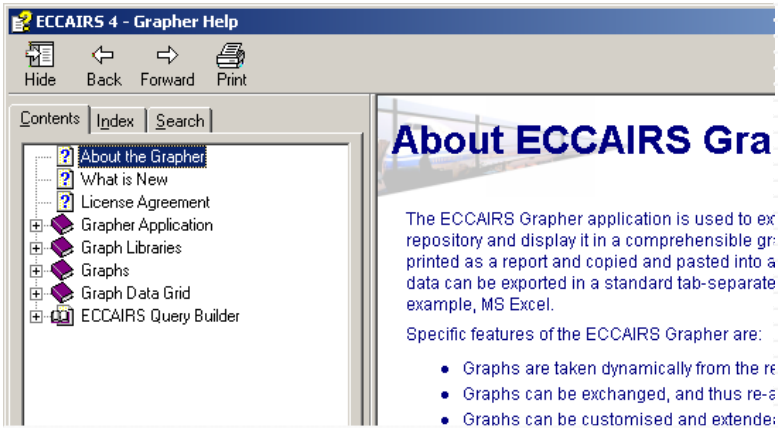
GRAPHER HELP AND SYSTEM INFO

The **Help** menu has three items:

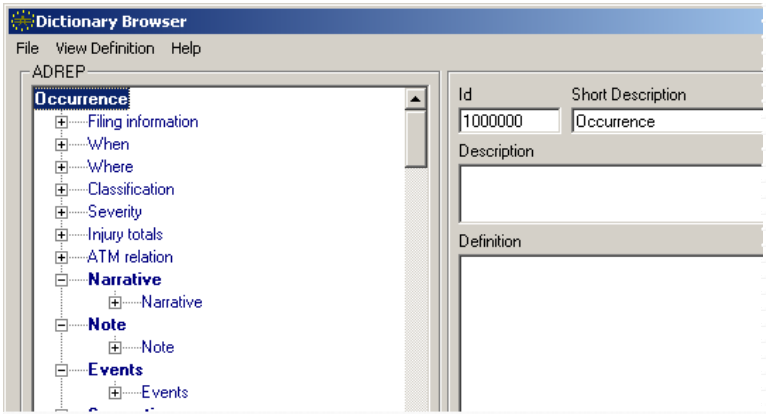




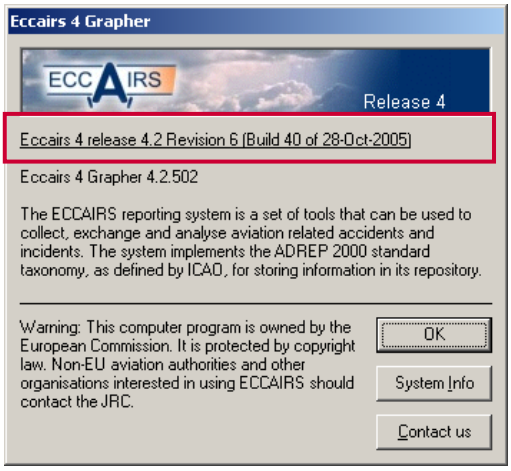
☑ **Eccairs 4 Grapher Help F1** invokes the standard Windows help support. This support can also be started via the corresponding icon-button in the toolbar and by the **[F1]** keyboard key.



☑ **Dictionary Browser...** starts the Dictionary Browser, which can be useful editing queries and selecting attributes.
See page 17-1 for details.



☑ About… displays a dialog whose upper pane contains information about the software version in use.



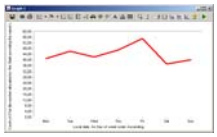
OK closes this dialog window.

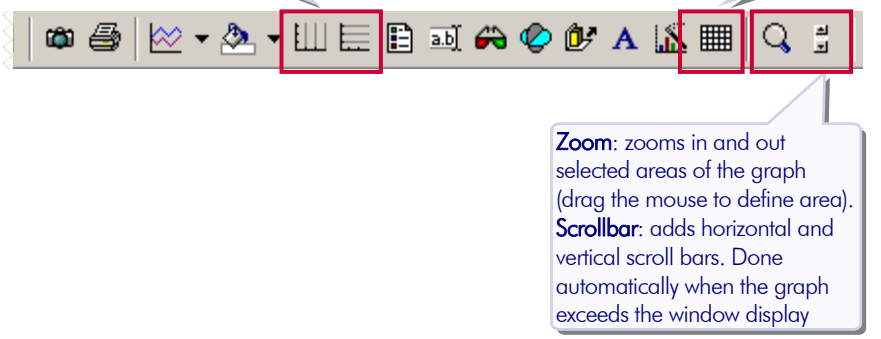
System Info recalls the system application which gives information on hardware and software configuration of the user computer.

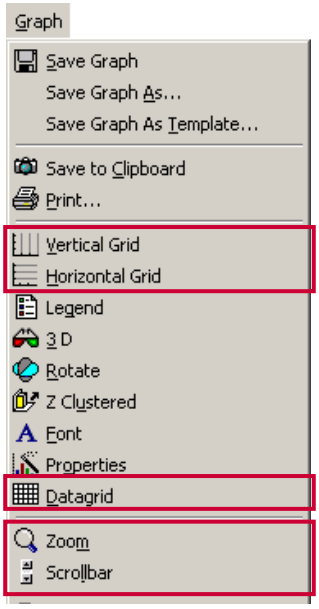
Contact us allows to send mail to the ECCAIRS development team by invoking the user mail client program (i.e. the program currently defined as the default mailer e.g. Outlook Express, Eudora, Pegasus, Mozilla/Netscape Mail, Thunderbird, etc.) with the correct address already filled in.

OTHER GRAPH FUNCTIONS

The Graph functions that have not been introduced or used in the previous chapters of this manual are listed below, associated to the corresponding graph toolbar items.





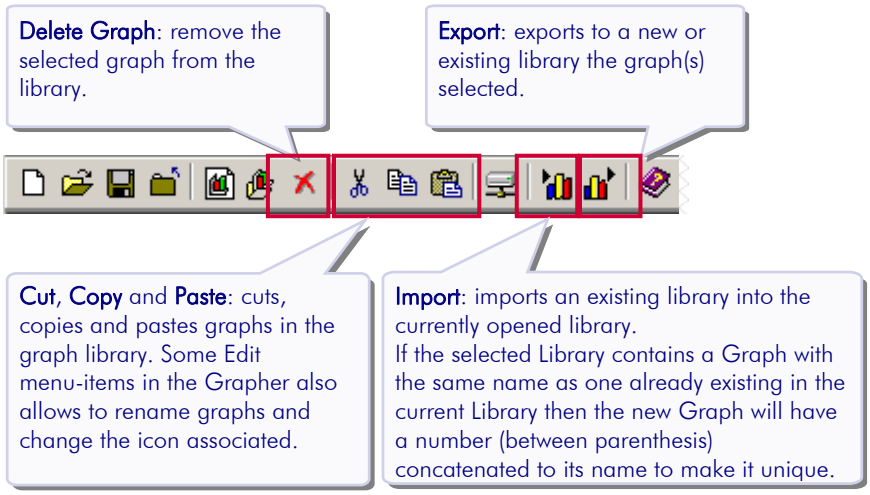


The same functions are also available in the Graph menu of ECCAIRS Grapher.

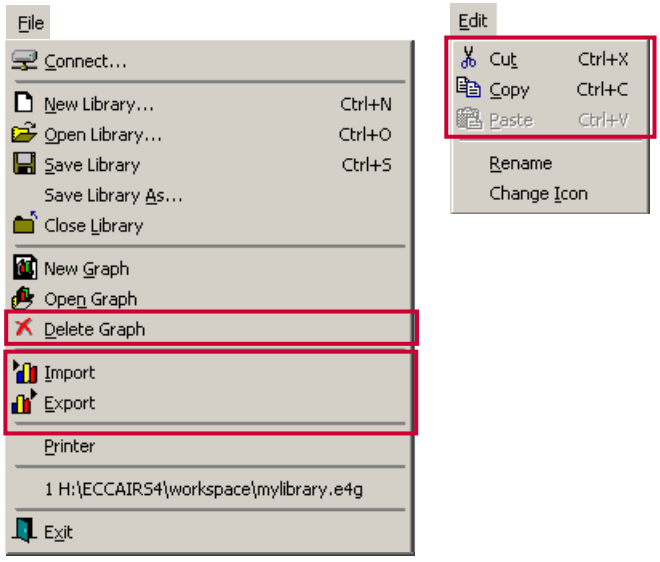
CHAPTER 13

OTHER GRAPH LIBRARY FUNCTIONS

The Graph Library functions that have not been introduced or used in the previous chapters of this manual are listed below, associated to the corresponding Grapher toolbar items.



The same functions are available in the **File** and **Edit** menu of ECCAIRS Grapher.

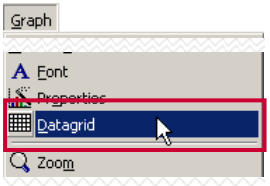


14 The Data-grid behind the graph

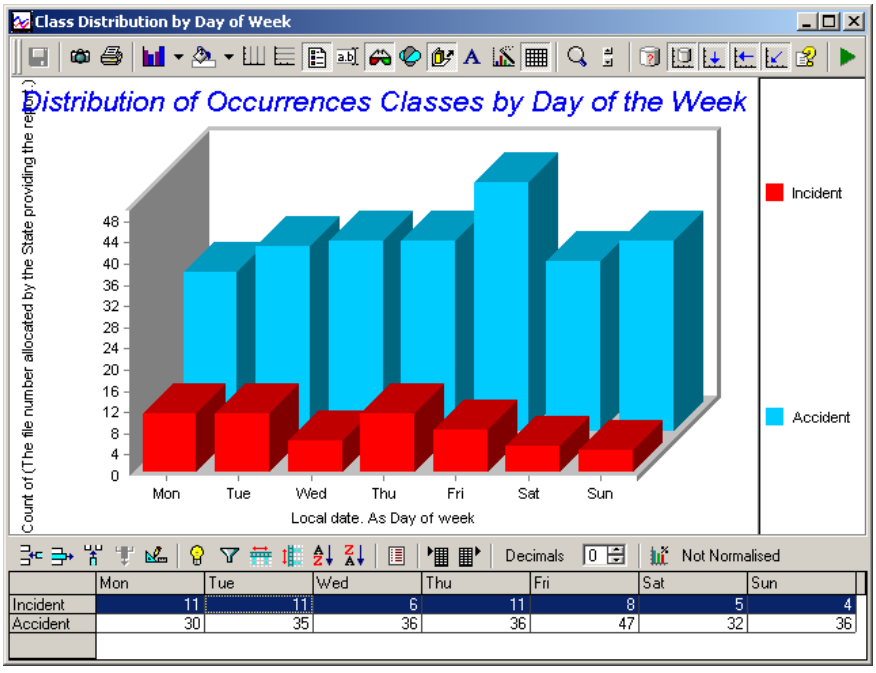
Data-grid: an overview

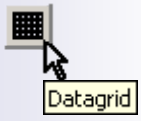
The data-grid is the spreadsheet-like matrix of values which is fed by the queries on the database and possibly completed by additional processing of the data-series (e.g. adding rows or columns, hiding and filtering data, sorting and ordering information, normalisation, etc).. The data-grid has then a direct link to the visualised chart in the graph.

This flexibility allows to prepare a number of useful standard graphs that can be re-executed easily on the data and provide directly a set of safety indicators.



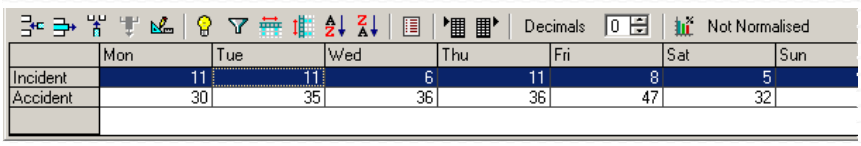
To make the data-grid visible select **Graph → Datagrid** when a graph is open or use the corresponding icon on the graph toolbar.





Part of the area used to visualize the graph will now be used to display the data-grid.

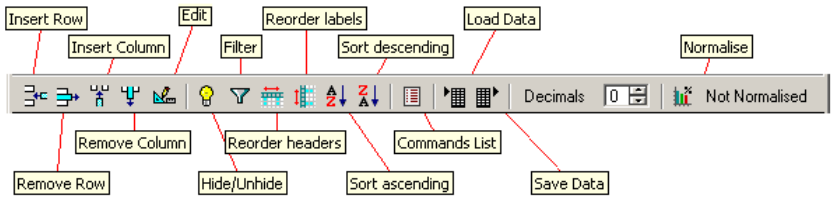
In the data-grid, the first row and column define the labels to be used at the X-axis and the Z-axis or Legend.



	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Incident	11	11	6	11	8	5	
Accident	30	35	36	36	47	32	

The white inner cells of the matrix contain the values linked to the Y-axis values.

The data-grid's toolbar offers functions to process the data retrieved from the database.

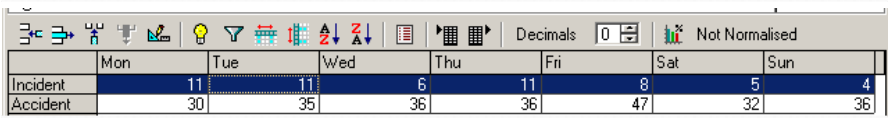


Most of these functions will be demonstrated in this chapter.

CHAPTER 14

SORTING GRAPH DATA

The data-grid cells are filled exactly following the output of the database query. It is likely that the order in which the columns or rows are presented needs to be modified to obtain a clearer result. To facilitate this, it is possible to order the grid based on row and column headers as well as on the cell contents (values).



	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Incident	11	11	6	11	8	5	4
Accident	30	35	36	36	47	32	36


Sort ascending


Sort descending

Sorting operates on the data values within the grid, i.e. the white-background cells. It is performed by selecting a row or a column and clicking on the two appropriate icons on the toolbar:

- ☑ Sort ascending
- ☑ Sort descending.

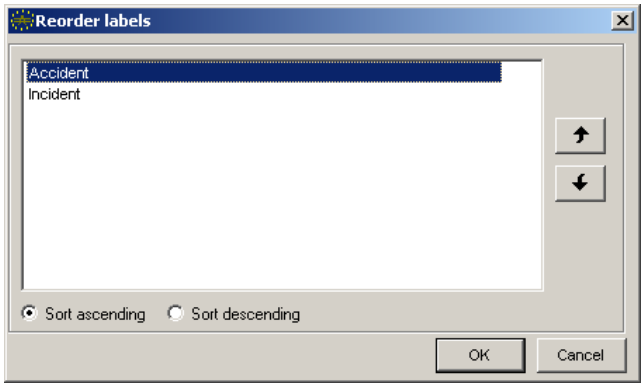
Re-ordering, instead, operates on the headers (the column labels) and labels of the columns and rows, i.e. the grey-background cells that are normally related to the meaning of the data values within the grid.
The value content of the grid is not taken into account in the ordering. Re-ordering is performed by clicking on the two appropriate icons on the data-grid toolbar:


Reorder headers


Reorder labels

- ☑ Reorder headers
- ☑ Reorder labels.

Both for headers and labels a dialog is displayed to allow for alpha-numeric sorting as well as manually changing the order.

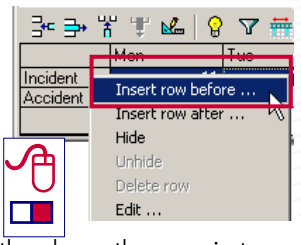


In all cases the relation between the row-labels, column headers and the data is never changed since this would make the data inconsistent.

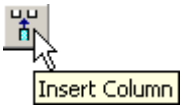
ADDING ROWS AND COLUMNS

In addition to the data retrieved from the database (by setting properties for Query, X-axis, Y-axis and Z-axis) it is possible to add to the data-grid rows and columns, whose content is determined by simple calculations on the other existing data.

To add a row in the grid:



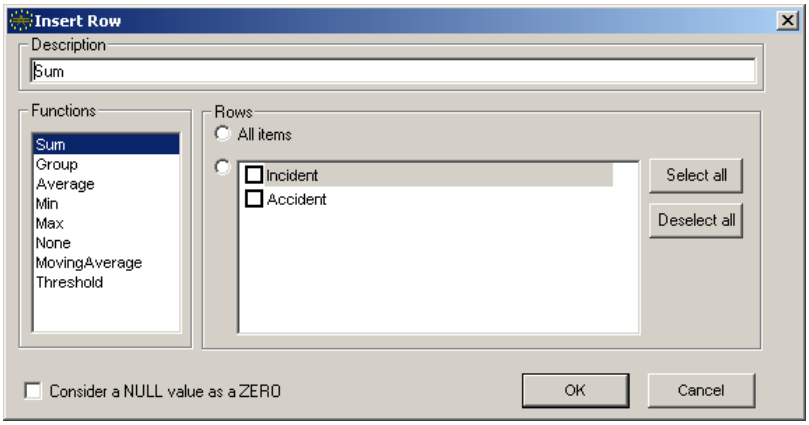
- ☑ Click on the Insert Row icon-button on the toolbar to add a row after the last row of the grid
- ☑ Alternatively select a row and use the right-click menu Insert row items.
  In this case it is possible to indicate exactly where the row is to be added, since adding is relative to the currently selected row (i.e. before... or after...).



To add a column in the grid:

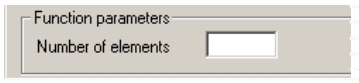
- ☑ Click on the Insert Column icon-button on the toolbar to add a column after the last column of the grid
- ☑ Alternatively select a column and use the right-click menu Insert column items.
  In this case it is possible to indicate exactly where the column is to be added, since adding is relative to the currently selected column (i.e. before... or after...).

In the dialog that is consequently displayed the user can specify which function is used to populate the row/column, which row/columns are taken into account and specify function options, where suitable (see next page for details).

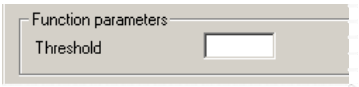


The various functions that can be applied are:

- ☑ Sum: Adds up the selected rows or columns.
- ☑ Group: Adds up the selected rows or columns and hides these rows automatically in the graph.
- ☑ Average: Calculates the average of a selected column or row.
- ☑ Moving Average: Calculates a moving average over the data-series indicated, i.e. the average over a column and its 'n' preceding columns.
  The value of 'n' can be set in the Insert Row/Column dialog.

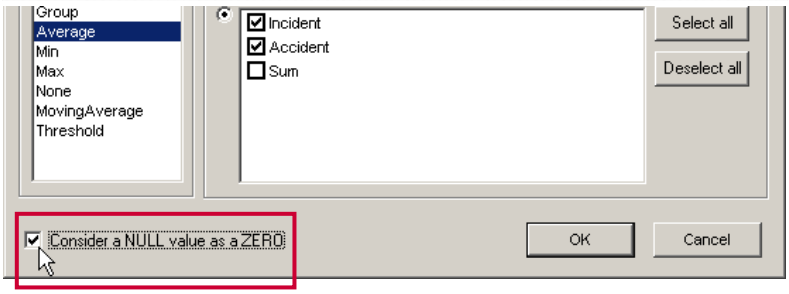


- ☑ Min: Calculates the minimum of a selected column or row.
- ☑ Max: Calculates the maximum of a selected column or row.
- ☑ Threshold: Inserts a new row or column with a constant value for all the cells. The constant value can be set in the dialog window.



- ☑ None: Inserts an empty row or column. The user can type in values for each cell.

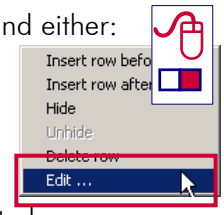
"Consider a NULL value as ZERO" check-box allow the user to specify if empty cells must be interpreted as ZERO.



For instance "Consider a NULL value as ZERO" option would not be appropriate when dealing with an "average age of pilot" data-grid (a zero value influences the average age during the computation).
The correct use of the "Consider a NULL value as ZERO" check-box must be evaluated on a case-by-case basis.

EDITING, REMOVING AND HIDING ROWS AND COLUMNS

To edit rows or columns select the item to be edited and either:

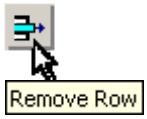


- ☑ Click on the Edit icon-button on the toolbar
- ☑ "Right-click menu"→ Edit in the data-grid
- ☑ Double-click on the item to be edited.

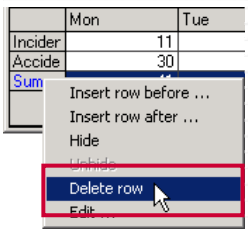
Also single cells may be selected/edited (see below).

The actions allowed vary according to the items selected:

- ☑ Editing a single cell may allow to modify its value, where applicable (e.g. in a new row/column added with the Threshold and None functions).
- ☑ Editing any normal row/column (i.e. not added to the data-grid) allows to modify the row/column header.
- ☑ Editing added rows and columns allows also to modify the function used to produce them, including its options.



Added rows and columns can be deleted by selecting them and using:

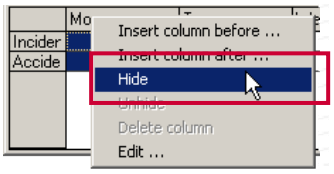


- ☑ The two appropriate Remove icon-buttons on the data-grid toolbar on the toolbar
- ☑ Selecting "Right-click menu"→ Delete row and "Right-click menu"→ Delete column.

Rows and columns resulting directly from the query cannot be removed from the grid, but they can be made invisible.

Any row or column in the data-grid can be made invisible in the Graph. This is done by selecting the row or column and either:

- ☑ Pushing the Hide/Unhide icon-button on the data-grid toolbar
- ☑ Selecting the "Right-click menu"→ Hide menu-item.



Pushing the icon-button again or selecting "Right-click menu"→ Unhide toggles the visibility status.

Adding new rows/columns with the Group function (see page 14-4) automatically hides the rows/columns used for grouping.

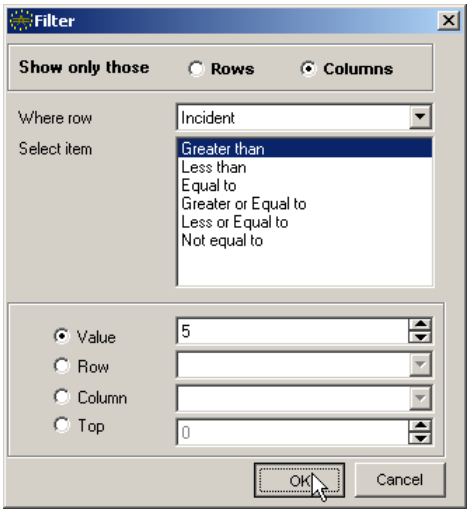
CHAPTER 14

FILTERING DATA FOR DISPLAY

It is likewise possible to automatically hide information by applying a filter on the data-grid. Filters can be applied and based on any type of row and column, those generated directly by the query as well as those added in the data-grid.

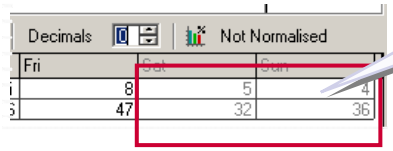
To filter a data-grid push the **Filter** icon on the toolbar.

The dialog window showing up allows to identify the various parameters for the filter:



- ☑ **Show only those Rows/Columns**. Selects filtering by rows or columns.
- ☑ **Where column/row**. Selects the column/row to be used for the filtering, based on the operator described in the Select item field. If rows are to be filtered then the specified column will be used for the comparison. Vice versa happens when filtering columns.
- ☑ **Select item**. Selects the operator to be used for the comparison.
- ☑ The bottom box in the Filter dialog allows to specify the reference value for the comparison, which can be:
  - ☑ **Value**: a constant value
  - ☑ **Row**: the corresponding value of a specific row
  - ☑ **Column**: the corresponding value of a specific column.

  The last choice, Top is not a reference value (see below).
- ☑ **Top**. This allows to hide all columns or rows but the top 'n' ones, as specified in the field to the right of the Top radio-button.



An invisible (hidden or filtered out) row or column can be recognised in the data-grid since it has a grey colour.

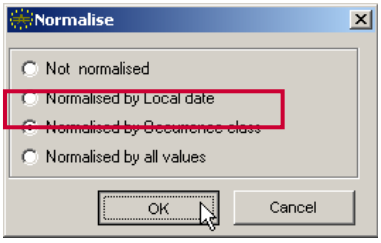
The concept of filtering is very powerful but needs some exercises to get used to.
For optimal results it is recommended to go create some examples and analyze the results.

NORMALISING GRAPH DATA

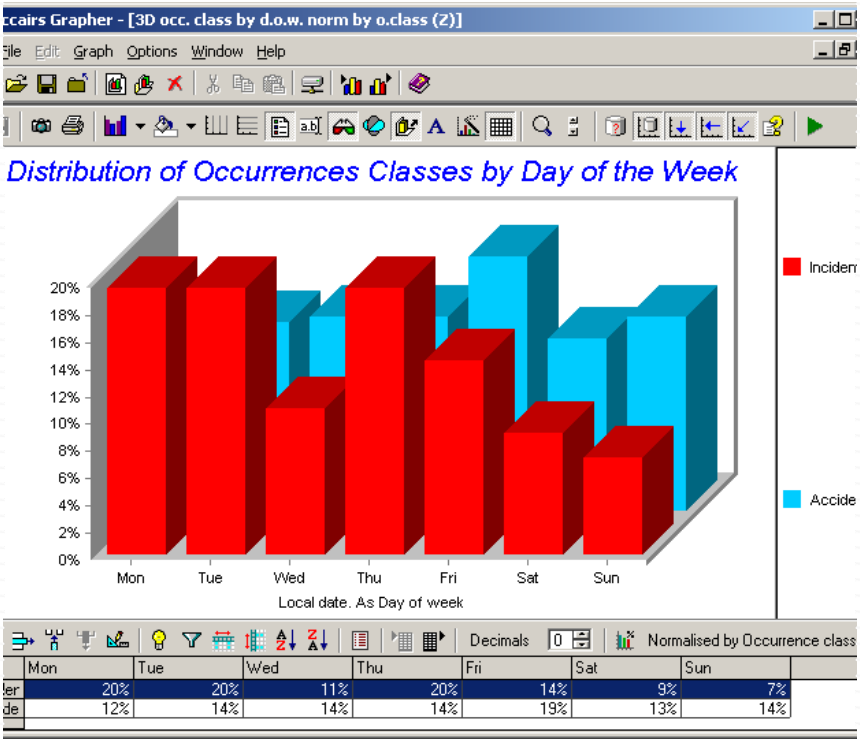
Normalisation often helps to gain a more significant perspective out of numerically inhomogeneous data sets. For instance, in our example, the total number of incidents is clearly greater than accidents, so direct day-by-day comparison does not give satisfactory results.

Selecting the **Normalise** icon-button displays a Normalise dialog which offers four choices:

- ☑ **Not normalised**: to remove normalisation
- ☑ **Normalised by *"X-axis label"*** (Local date in the sample)
- ☑ **Normalised by *"Z-axis label"*** (Occurrence class in the sample)
- ☑ **Normalised by all values**.



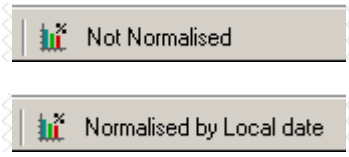
The sample graph below shows Normalisation by Occurrence class.



This means that for each found Z-axis value (blue and red, incident and accidents) the total of the various X-axis attributes (Monday, Tuesday etc.) is set to 100%. Instead of absolute values the resulting percentages are given. This way it is possible to compare the trend of the accidents/incidents during the week if the absolute values are disproportionate.

In addition to normalisation by Z-axis, ECCAIRS Grapher offers:

- ☑ **Normalisation by "X-axis label"**: (i.e. by Local Date in the exemplary graph) for each found X-axis value (Monday, Tuesday etc.) the total of the various Z-axis attributes (blue and red) is set to 100% and instead of absolute values the resulting percentages are given.
  This way it is possible to compare the contribution of each colour for each day of the week.
- ☑ **Normalisation by all values**: the sum of all found values (on the Y-axis) are set to 100% and each bar in the graph is then expressed as a percentage of this total.
  This way it is possible to assess the contribution of each 'measurement point' to the total.



In the data-grid toolbar, at the right of the Normalise icon-button, ECCAIRS Grapher displays a "current normalisation status" message.

WHAT IS "NORMALISATION" ?

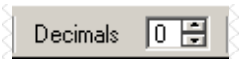
Normalisation is the process where the sum of all values in a series is set to 1. Each value is then recalculated appropriately.

In ECCAIRS Grapher normalisation is implemented by expressing each value as percentage of the total.

ADDITIONAL DATA-GRID FUNCTIONS

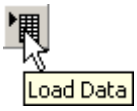
Decimal places

In many cases the data-grid and the graph should display the numbers using a specific number of decimal places.



This preference can be set from the toolbar by operating on the Decimals control.

Load data



It is also possible to load external data in the data-grid from a TAB delimited text file.

To do so click on the Load Data icon-button in the data-grid toolbar and browse to select the text file with the external data.

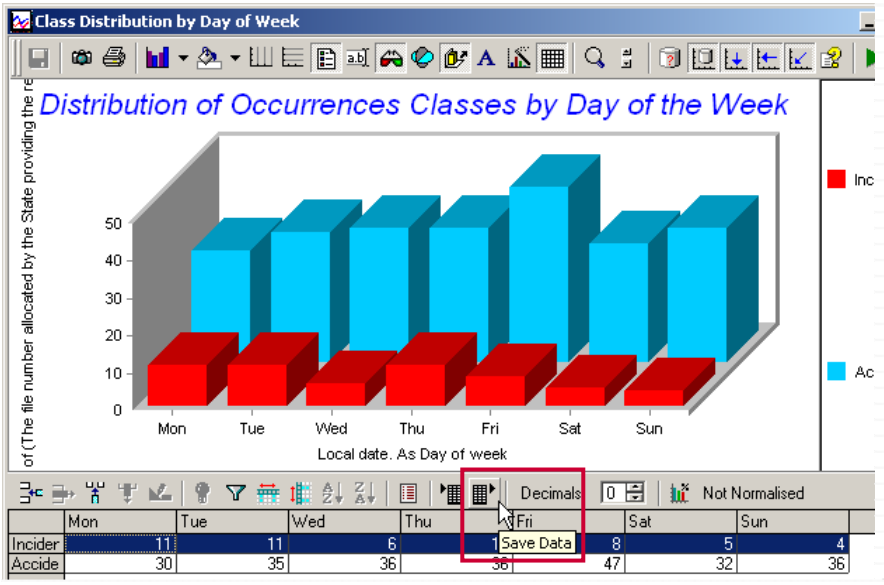
In such a case the graph will have no link with the database. It could be used for simple visualisation purposes.

Saving (exporting) graph data

There might be cases where the pure graph "plotting data", rather than the graph itself, may be useful for further processing.

Let us suppose for instance we wish to import the graph data in Microsoft Excel .

Open the data-grid and select the Save Data icon-button in its toolbar.



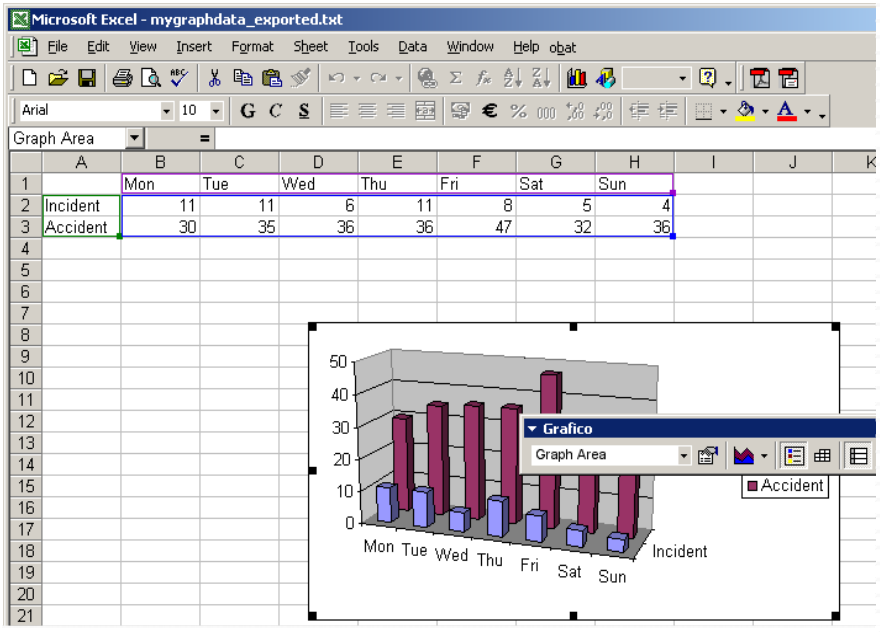
In the browse dialog that will be displayed locate the destination-folder and enter a file name for the data to be exported.

Click on the **Save** button: data is saved in a TAB separated text file format. Two save formats are available:

- ☑ **Text Files** (default)
- ☑ **Transposed Text Files**.

Both of them save data in a TAB separated text file format with the ".txt" file extension.
The **Transposed Text Files** type is in fact a normal text file format where row and columns data have been swapped.

It is now possible to import the graph, for instance, in Excel through the standard File → Open command, selecting "Text file" as file type and then following the import wizard steps.



The data exported can be used, for instance, to create an Excel graph which may be pasted as object in any Windows application.

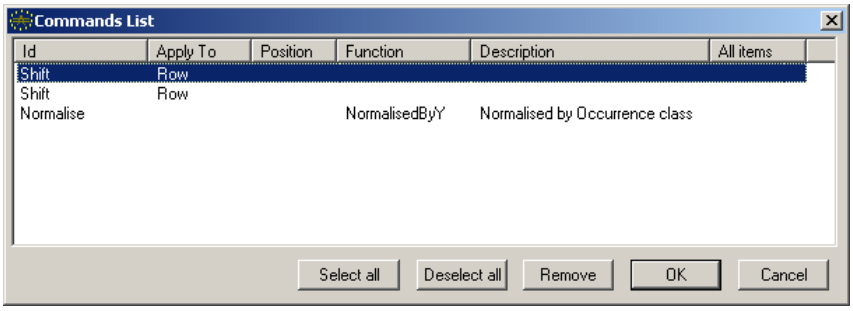
CHAPTER 14

Command list

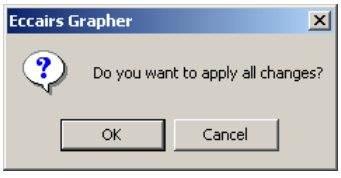
All actions the user performs on a graph (for example adding rows and columns, changing the visibility, editing cells, sorting the grid, etc) are maintained in a list of commands that will be applied every time the graph is executed or refresh.

Clicking on the **Commands List** icon-button allows to view and modify this command list.

In the dialog window that shows up the user can remove any single or all commands that are attached to the core query of the Graph.



When the dialog window is closed the user will be asked if the changes are to be applied immediately on the graph.



The command list is saved with the graph.
So remind that if no explicit saving of the graph is made (by the **Graph → Save** , **Graph → Save As...** , etc) all changes to the graph and to the command list will also be lost.

CLEANING UP THE COMMAND LIST

Every action done after creating the core graph will be registered as a command.

This implies that the command list can grow rather rapidly and might contain superfluous commands (i.e. hide and unhide of the same row). When the final result of the graph is satisfactory it is wise to evaluate if there are unused commands present in the command list and remove them. Sometimes it maybe wiser to recreate the graph by hand, avoiding unnecessary actions.

This will increase performance and reproducibility of the graph.

PART 4

THE ECCAIRS UTILITIES

15 E4F GENERATOR

16 E4F LOADER

17 DICTIONARY BROWSER

18 EXPORTER

15 E4F Generator

What is the E4F Generator

The E4F Generator is a tool used to generate ECCAIRS 4 Data Files (*.E4f) from a repository database. E4F files contain any number of encrypted ECCAIRS occurrences in an XML based format and can be used to store, exchange and backup occurrences in an ECCAIRS repository.

Typical usage of the E4F Generator is for backing up the contents of your database in (a series of) E4F files. It is recommended to perform such a backup regularly, even if your database administrator makes back-ups of your databases in the specific database management environment.

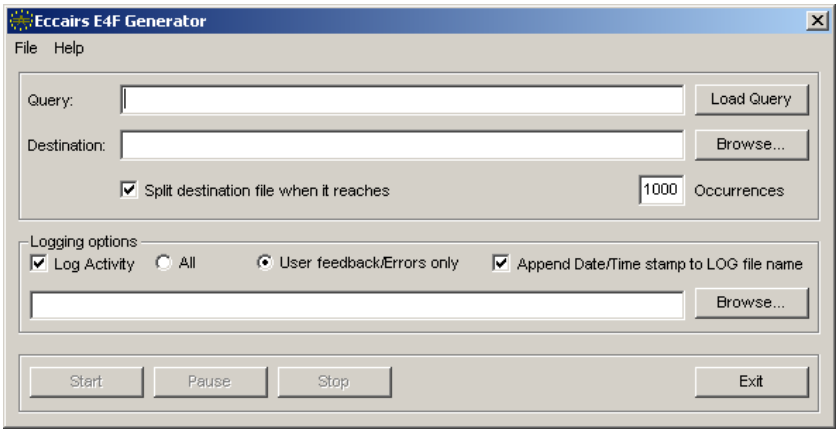
Though it is possible to manage ECCAIRS occurrences from within the ECCAIRS Browser application, usage of the E4F Generator is mandatory when you migrate from one version of ECCAIRS to a newer version of ECCAIRS and the data format and/or data taxonomy has been changed. In this case passing your data via an E4F file guarantees you that all appropriate conversion and adaptation is performed.

The E4F Generator has a peer utility called the E4F Loader, which has the opposite functionality, namely storing occurrences from an E4F file into an ECCAIRS repository database (see page 16-1).

It is important to know that the E4F Generator always respects the security settings of the repository's security profile, so that confidentiality, if applied, is maintained.

STARTING AND OPERATING THE E4F GENERATOR

Start the E4F Generator by selecting
Start → Programs → Eccairs 4 → Tools → E4F Generator from the Windows task-bar and performing the standard ECCAIRS logon (see page 3-2): its main window will show up.



The approach for generating an E4F file from a database consists of four steps which will be illustrated in the next pages:

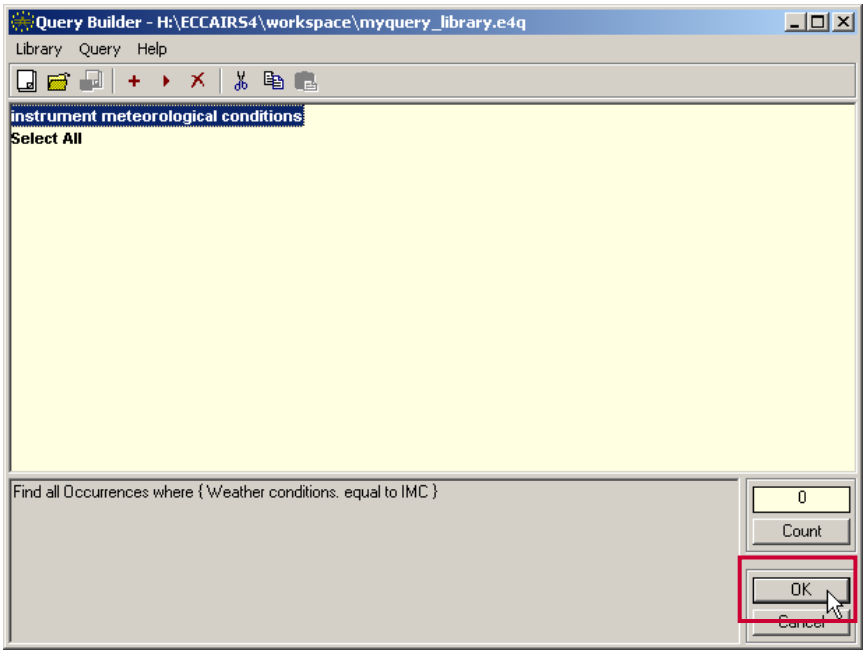
1. Select the occurrences to be extracted from the database
2. Define the destination file, possibly splitting up the output in multiple files
3. Set the logging options
4. Start the generation procedure and exit on completion or interruption.

CHAPTER
15

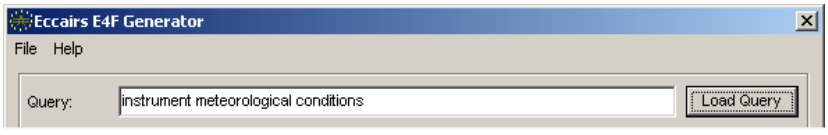
Select your occurrences

The first step to generate E4F files is to define which occurrences to extract from the database; this means to select and load a query.

To load a query, click on the **Load Query** button. The **Query Builder** shows up: here you can either define a new query, or modify an existing query or just select an existing query.



Once the query is selected, click on the **OK** button to go back to the E4F Generator main window. The same action can be achieved by double-clicking on the query to be executed in the Query Builder pane.



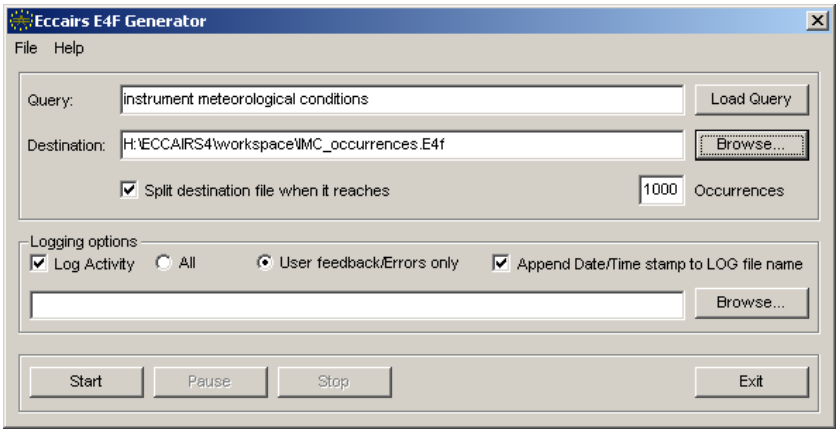
Note that the name of the selected query is now shown in the corresponding text box.

Refer to section **Queries** and subsequent in chapter **Working with databases** (page 7-6 and following) for details on queries, query libraries and ECCAIRS Query Builder.

DEFINE DESTINATION FILE

The second step consists in defining the destination filename and folder for the output E4F file(s).

You can either specify them by typing in the full output file path name in the Destination text-box or by browsing in your file system, using the Browse... button and the standard Windows open-file dialog that will be consequently displayed.



Optionally, it is possible to split the output in multiple files, each limited to a specific number of occurrences. It is recommended to have no more than about 1000 occurrences in a single E4F file, since larger files would slow down significantly the performance of your ECCAIRS applications.
Therefore the Split destination file when it reaches check-box and an 1000 Occurrences split-threshold are enabled and set by default.

When the output is split into multiple files, each file will have its base name (i.e. not the .E4f file extension) extended with the particular range of occurrences generated.
For example, if the destination file name is `IMC_occurrences.E4f` and the query returns a total number of 1789 occurrences, with the split threshold set to 1000, then E4F Generator will generate two files:

- ☑ `IMC_occurrences1-1000.E4f`
- ☑ `IMC_occurrences1001-1789.E4f`

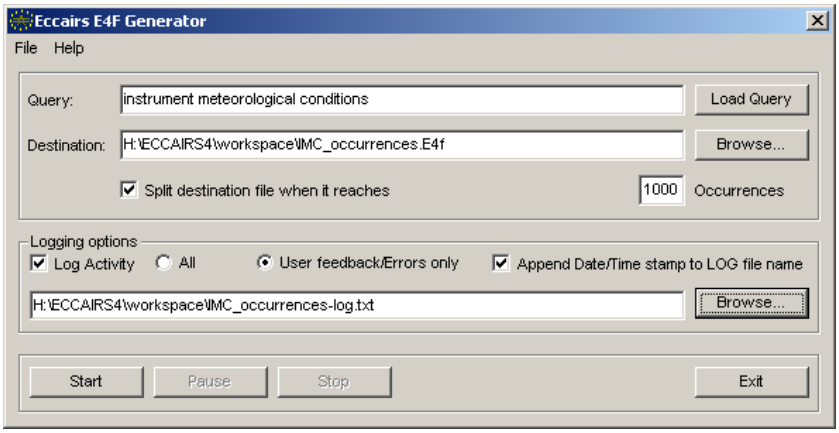
DEFINE LOGGING OPTIONS

In the Logging options pane you can enable the system to create a Log text file. Since the loading process runs in background, it is recommended to create such a file and therefore logging is enabled by default.

To explicitly enable/disable logging, check the Log Activity check-box.

Once logging is enabled, you can set options in the Logging options pane:

- ☑ All: generates a log file that will include all the events.
- ☑ User feedback/Errors only: generates a log of just user feedback and errors. This option is enabled by default and is an alternative for the All option (enabling one disables the other).
- ☑ Append Date/Time stamp to LOG file name: automatically appends to the log filename the date and time the file is generated. This option in enabled by default.
- ☑ Browse...: allows to specify the log file name by typing it in the appropriate text-box or interactively by browsing your system files.

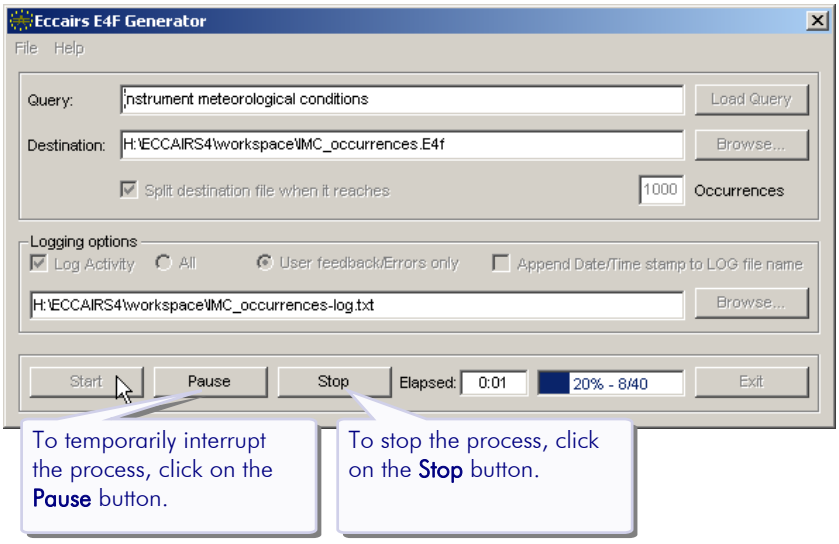


Note that choosing the All option may increase significantly the size of the log file. Furthermore the log file is always a single text file, and it is never split up even when the destination file is.

RUN THE GENERATION

As soon as the input query and the destination file have been defined, the **Start** button on the main window becomes enabled.

To run the generation process, click on the **Start** button.



During the subsequent processing:

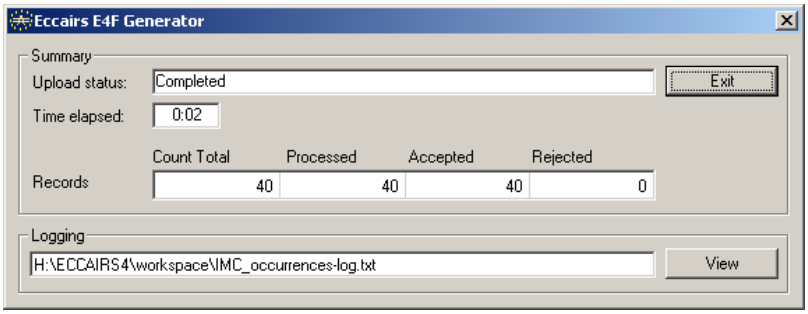
- ☑ The **Pause** button and the **Stop** button become enabled
- ☑ An **Elapsed** processing time box and a **Progress-bar** are displayed. The latter displays the progress both visually with a blue bar and numerically (as percentage and as fraction).

GENERATION RESULT SUMMARY

At the end of the generation process a window is displayed with an overview of the result.

Clicking on the **View** button opens the log file, if generated (see note box below).

Clicking on the **Exit** button will return to the E4F Generator main window.



In the **Summary** pane you find:

- ☑ The **Upload status** at the end of the process
- ☑ The **Time elapsed** for processing
- ☑ A **Records** count: i.e. an overview of the total number of occurrences processed, accepted and rejected.

In the **Logging** pane you find:

- ☑ The name of the log file generated.

WHEN IS THE LOG FILE ACTUALLY GENERATED ?

*Note that clicking on the **View** button actually opens the log file only if the file has been generated (i.e. the log output was non-empty).*

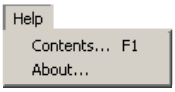
*If the **All** option has been specified in the **Logging options** pane of the main window, then there will always be something to write to the log, and so the log file will always be generated.*

*If the **User feedback/Errors only** option has been specified, the log file is generated only if errors or warnings were generated during the processing.*

E4F GENERATOR MENU BAR ITEMS

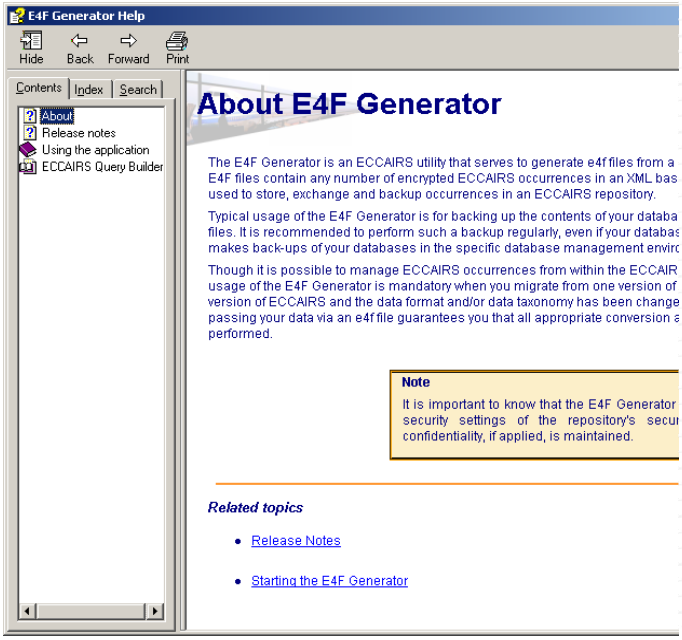
The E4F Generator has a menu bar with two menus.

☑ The **File** menu has a single item, **Exit**, to quit the application when selected. The E4F Generator can also be quitted with either the bottom **Exit** button or the standard Windows top right close control of its main window.

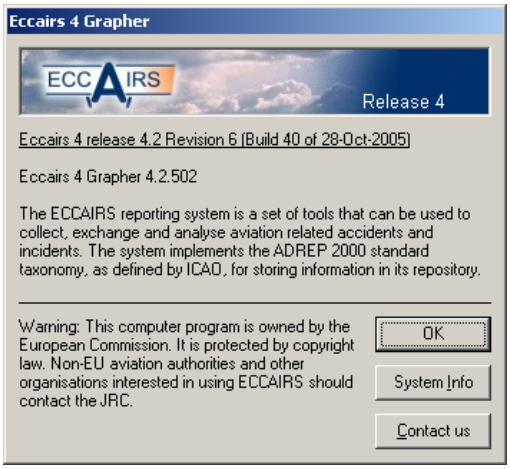


☑ The **Help** menu has two items:

- **Contents... F1** invokes the standard Windows help support. This support can also be started by the **[F1]** keyboard key.



- About... displays information about the software version in use and can give access to the system information on the computer where ECCAIRS is currently running, through the System Info button.



Select OK to close this window.

16 E4F Loader

What is the E4F Loader

The E4F Loader is a tool used to load ECCAIRS 4 Data Files (*.E4f) in a repository's database.

E4F files can be used to store, exchange and backup occurrences in an ECCAIRS repository. Though it is possible to manage ECCAIRS occurrences from within the ECCAIRS Browser application, in many cases using the E4F Loader is more efficient, more clear, less likely to generate problems and better documented in the form of extensive logging options.

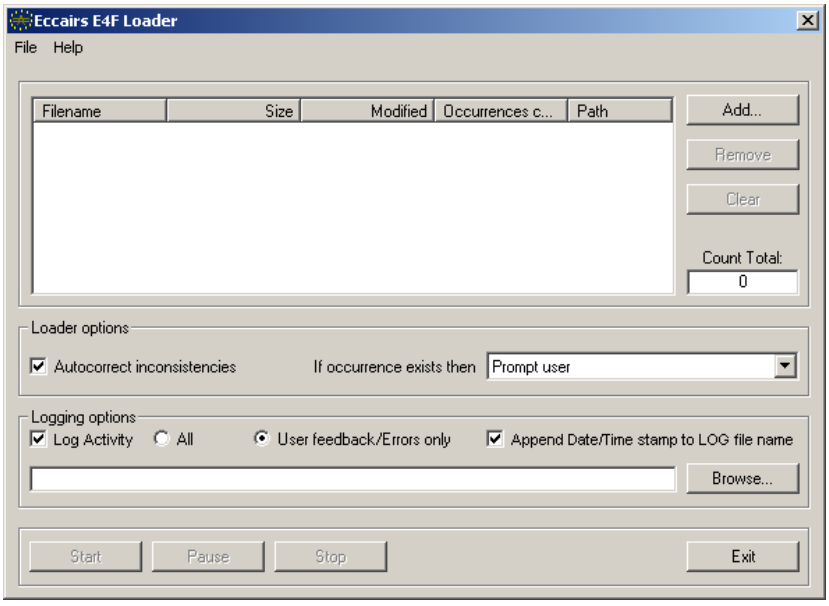
Usage of the E4F Loader is mandatory when you migrate from one version of ECCAIRS to a newer version of ECCAIRS and the data format and/or data taxonomy has been changed. In this case passing your data via an E4F file guarantees you that all appropriate conversions and adaptations are performed.

Typical usage of the E4F Loader is for restoring the contents of your database from (a series of) E4F files. It is recommended to perform backups regularly (using the related E4F Generator application), even if your database administrator makes back-ups of your databases in the specific database management environment.

It is important to know that the E4F Loader always respects the security settings of the repository's security profile, so that confidentiality, if applied, is maintained.

STARTING AND OPERATING THE E4F LOADER

Start the E4F Loader by selecting
Start → Programs → Eccairs 4 → Tools → E4F Loader from the Windows task-bar and performing the standard ECCAIRS logon (see page 3-2): its main window will show up.

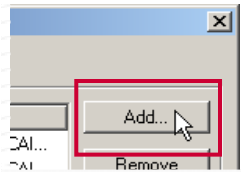


Loading one or more E4F file into a database is a four step procedure that will be illustrated in the next pages:

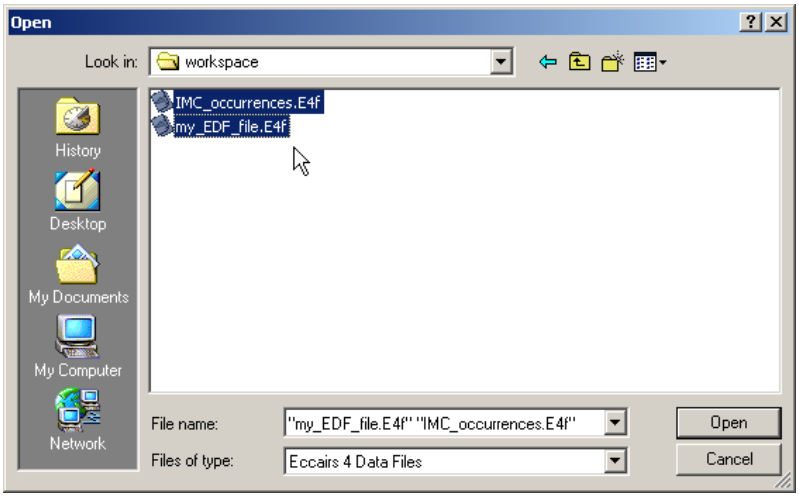
1. Select the E4F files to be loaded into the database
2. Define the E4F Loader options, mainly regarding what to do when duplicate or invalid occurrences are found
3. Set the logging options
4. Start the load procedure and exit on completion or interruption.

Select your E4F files

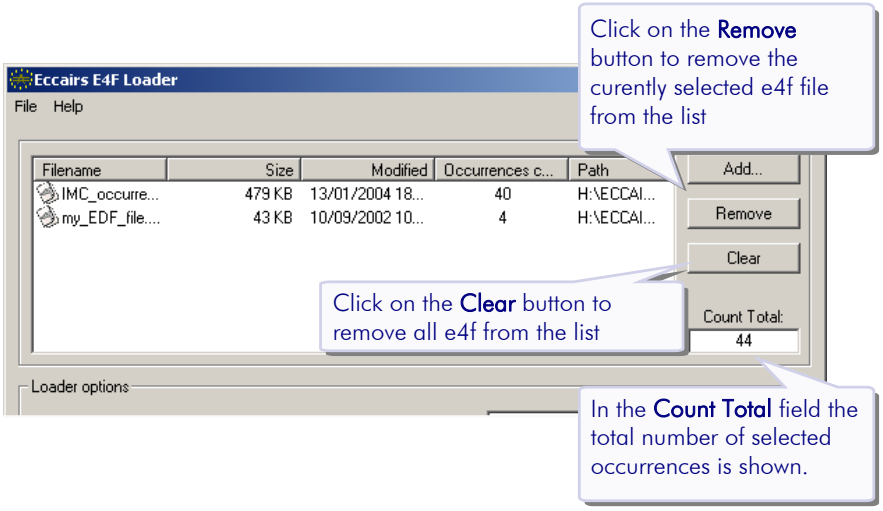
The first step is to select the E4F files you want to be loaded into the database.



Click on the **Add...** button to add new E4F files. A standard Windows open-file dialog will be displayed, allowing you to select one or more E4F files.



Once selected, all file details are presented in the top pane of the main window, including the number of occurrences of each file.

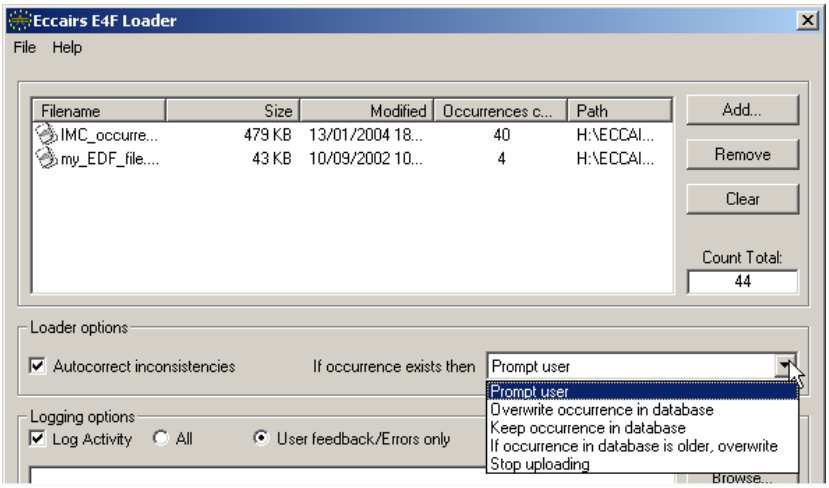


To select E4F files, you can also directly drag and drop them from any standard explorer window, opened on your desktop, into the file list in the top pane of E4F Loader.

DEFINE E4F LOADER OPTIONS

Once the E4F files are selected you must set the Loader options.

Check the **Autocorrect inconsistencies** box in the **Loader options** pane to allow the E4F Loader to automatically detect and repair inconsistencies.



An example of inconsistencies detection is checking that **Total injuries** attribute value (in the Injury totals section of the **Occurrence** root topic) corresponds to the sum of values for the **Injuries grand total** attributes of each aircraft involved (in the Injuries section of each of the specific **Aircraft-Injuries** topics).

To set the system actions in case a duplicate occurrence is found the following options are available:

- ☑ **Prompt user**: A dialog will appear informing the user about the situation and asking the user how to proceed.
- ☑ **Overwrite occurrence in database**: The duplicate occurrence in the database is removed and the new occurrence from the E4F file is inserted.
- ☑ **Keep occurrence in database**: The duplicate occurrence in the database is retained and the new occurrence from the E4F file is ignored.
- ☑ **If occurrence in database is older, overwrite**: If the occurrence from the E4F file has a more recent date than the occurrence in the database then replace the duplicate occurrence in the database with the new occurrence from the E4F file.
- ☑ **Stop uploading**: Stops the procedure.

DUPLICATE OCCURRENCES

The ECCAIRS Reporting System offers specific provisions in order to avoid that occurrences are inserted twice in an E4F file or database.

To understand how these provisions work it is necessary to know how occurrences are uniquely identified and when an occurrence is considered a duplicate.

The properties that make an occurrence unique are:

- ☑ The occurrence signature
- ☑ State File Number/State Reporting.

The occurrence signature

A unique identifier is assigned to each occurrence whenever it is created. This identifier (the occurrence signature or occurrence key) never changes; it remains independent from any type of change that can be made to the occurrence by a user or system.

If two occurrences have the same signature it is 100% sure that the origin of the occurrence is the same, even if all attributes of the occurrence, including State File Number and State Reporting, are different.

State File Number/State Reporting

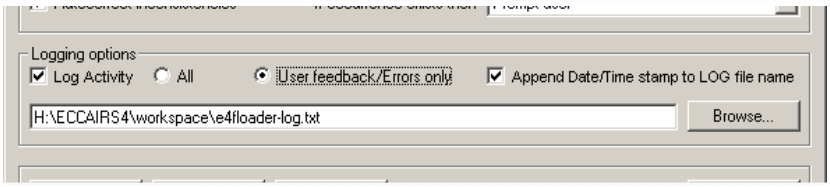
For each occurrence there are a number of mandatory attributes namely Organization, State Reporting and State File Number. The latter two, 'State Reporting' and 'State File Number' are both considered a unique identifier for the occurrence, based on the assumption that each state has unique identifiers for their own occurrence reports.

If two occurrences have the same combination of State Reporting and State File Number then the ECCAIRS system considers these reports to refer to the same occurrence.

DEFINE LOGGING OPTIONS

In the **Logging options** pane you can enable the system to create a Log text file. Since the loading process runs in background, it is recommended to create such a file and therefore logging is enabled by default.

To explicitly enable/disable logging, check the **Log Activity** check-box.

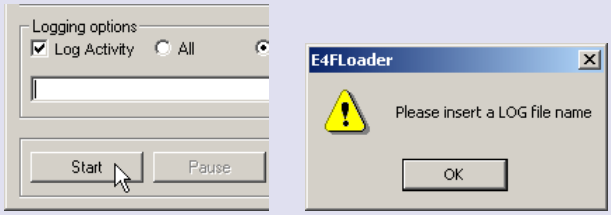


Once logging is enabled, you can set options in the **Logging options** pane:

- ☑ **All**: generates a log file that will include all the events. Choosing this option may increase significantly the size of the log file.
- ☑ **User feedback/Errors only**: generates a log of just user feedback and errors. This option is enabled by default and is an alternative for the **All** option (enabling one disables the other).
- ☑ **Append Date/Time stamp to LOG file name**: automatically appends to the log filename the date and time the file is generated. This option in enabled by default.
- ☑ **Browse...**: allows to specify the log file name by typing it in the appropriate text-box or interactively by browsing your system files.

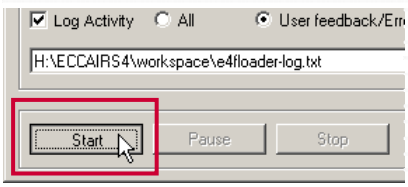
LOG FILENAME IS MANDATORY WHEN LOGGING IS ENABLED

*If logging has been enabled (as it is by default) it is then mandatory to specify the log file name either by typing it in the appropriate text-box or though the **Browse...** button.*



START THE LOADING

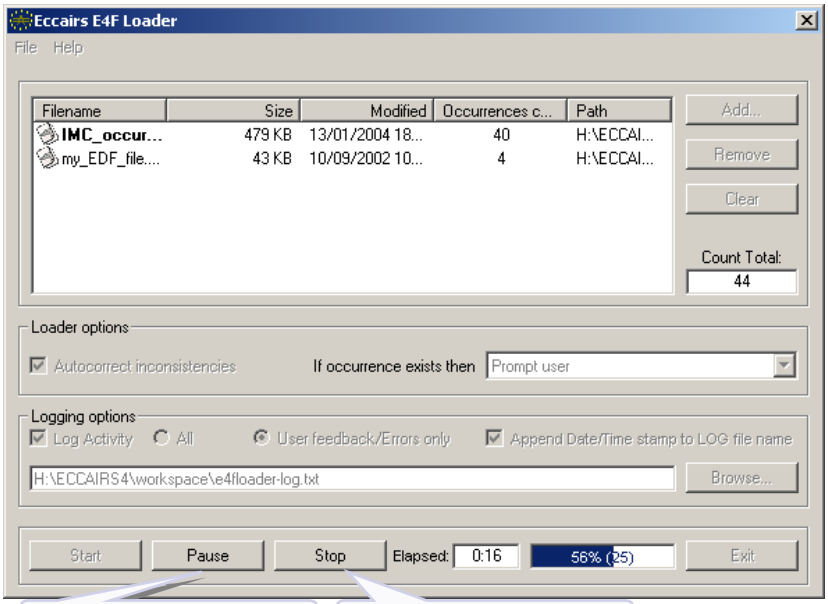
As soon as the input E4F files have been defined, the **Start** button on the main window becomes enabled.



To start the loading process, click on the **Start** button.

During the subsequent processing:

- ☑ The **Pause** button and the **Stop** button become enabled
- ☑ An **Elapsed** processing time box and a **Progress-bar** are displayed. The latter displays the progress both visually with a blue bar and numerically (as percentage and as fraction).



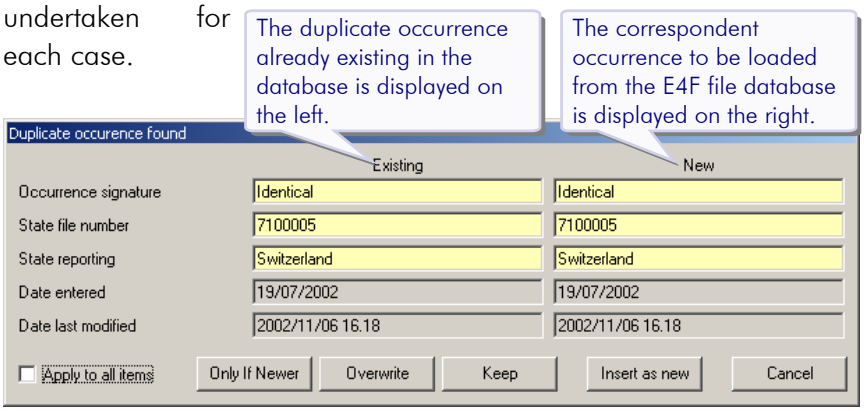
To temporarily interrupt the process, click on the **Pause** button.

To stop the process, click on the **Stop** button.

At the end of the generation process a window is displayed with an overview of the result.

PROMPT ON DUPLICATE OCCURRENCE

If the "if occurrence exist" **Prompt user** option has been set in the **Loader options** pane, a **Duplicate occurrence found** dialog is displayed whenever the E4F Loader finds a duplicate occurrence during the load process (see page 16-5). This dialog window compares the duplicate occurrences involved and the user can then decide the action to be undertaken for each case.



The uniquely-identifying attributes (see page 16-5) having identical values are highlighted with a yellow field-background. All the 3 identifying attributes are duplicated in the picture shown above.

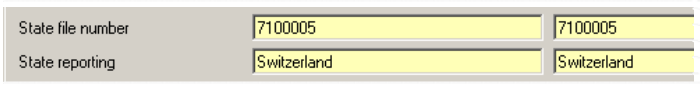
The **Apply to all items** check box is not applicable for the **Insert as new** and **Cancel** buttons.

The **Apply to all items** check-box, when selected, allows an automatic re-application of the action associated to the button being selected to all the subsequent duplicate occurrences possibly detected.

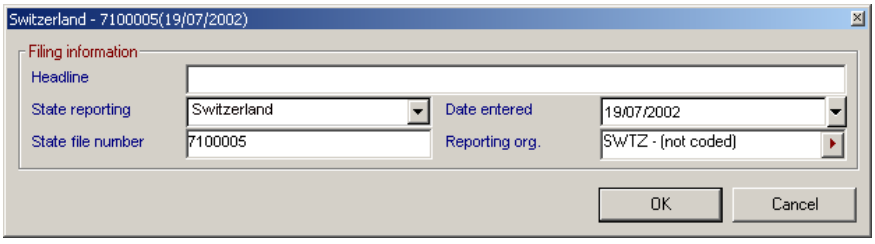
The buttons at the bottom allow to select the action to be undertaken:

- ☑ **Only if Newer**: If the occurrence from the E4F file has been modified at a more recent date than the occurrence in the database then replace the corresponding occurrence in the database by the one from the E4F file.
- ☑ **Overwrite**: The duplicate occurrence in the database is removed and the new occurrence from the E4F file is inserted.
- ☑ **Keep**: The occurrence from the E4F file is ignored and the occurrence in the database is retained.
- ☑ **Cancel**: The Loading process is stopped and the final overview window (see page 16-10) is displayed.

- Insert as new: With this choice there are two possible (and not mutually exclusive) cases and corresponding actions to be undertaken:

1. 

   If the combination of State File Number and State Reporting is identical (i.e. the second and third row fields are highlighted in yellow) then another dialog window is displayed.



   In this dialog the user can change one or both of the duplicated attributes in the occurrence from the E4F file as well as its Headline, Date entered and Reporting organization attributes.
   Once changes are confirmed with the OK button, a new attempt is done to store the occurrence in the database.

2. 

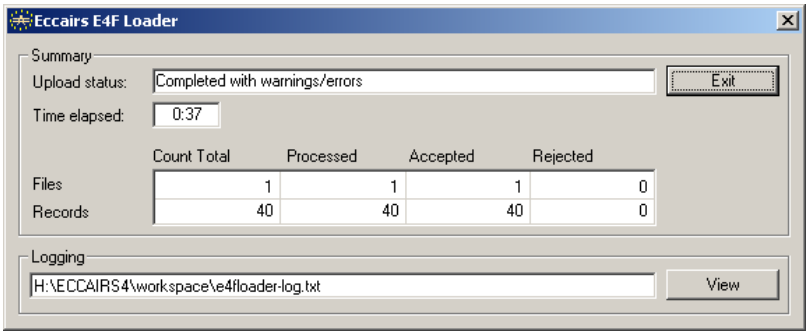
   If the Occurrence signature is identical (i.e. the top row field is highlighted in yellow), a new signature will be assigned to the occurrence from the E4F file and a new attempt is made to insert the occurrence in the database.

LOADING RESULT SUMMARY

At the end of the loading process a window is displayed with an overview of the result.

Clicking on the View button opens the log file, if generated (see note box below).

Clicking on the Exit button will return to the E4F Loader main window.



The Summary pane displays:

- ☑ The Upload status at the end of the process
- ☑ The Time elapsed for processing
- ☑ A Records count: i.e. an overview of the total number of occurrences processed, accepted and rejected.

In the Logging pane the name of the log file generated is shown (see note box below).
Note that choosing the All option may increase significantly the size of the log file.

WHEN IS THE LOG FILE ACTUALLY GENERATED ?

Note that clicking on the View button actually opens the log file only if the file has been generated (i.e. the log output was non-empty).

If the All option has been specified in the Logging options pane of the main window, then there will always be something to write to the log, and so the log file will always be generated.

If the User feedback/Errors only option has been specified, the log file is generated only if errors or warnings were generated during the processing.

CHAPTER 16

E4F Loader menu bar items

The E4F Loader has a menu bar with two menus.

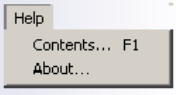
File menu

The **File** menu has a single item, **Exit**, to quit the application when selected.

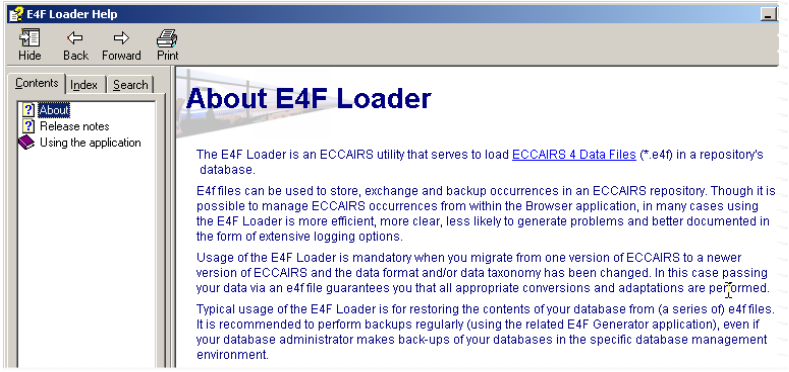
The E4F Loader can also be quitted with either the bottom **Exit** button or the standard Windows top right close control of its main window.

Help menu

The **Help** menu has two items:

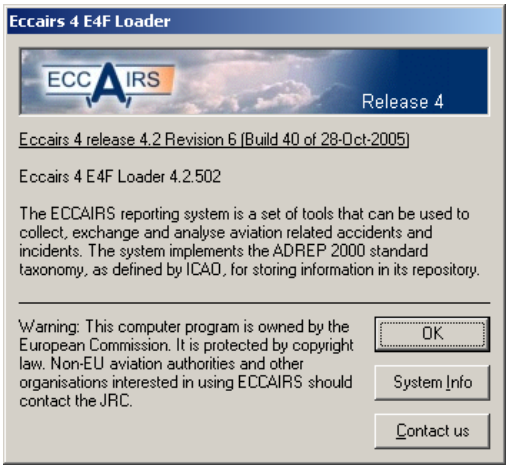


- ☑ **Contents... F1** invokes the standard Windows help support. This support can also be started by the **[F1]** keyboard key.



- ☑ **About...** displays information about the software version in use and can give access to the system information on the computer where ECCAIRS is currently running, through the **System Info** button.

  Select **OK** to close it.



17 Dictionary Browser

What is the Dictionary Browser

The Dictionary Browser is the standard reference dictionary for ECCAIRS 4 users.

It gives a quick and complete view of the taxonomy used by ECCAIRS 4, i.e. all topics, sections and attributes available.

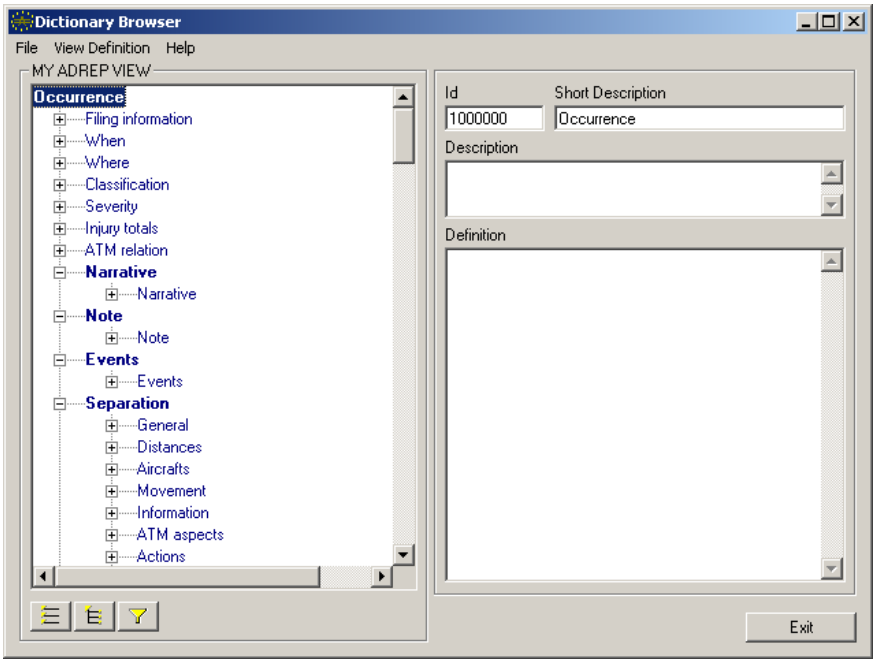
For each item an ID, a description (short and long) and a definition are given.

For each attribute its properties are listed, including all the value choices available, operators applicable to that attribute in a query, etc.

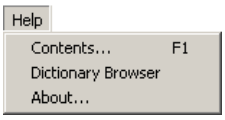
This application is an on-line Dictionary that will help the ECCAIRS 4 user to understand the standard (ICAO) nomenclature and, ultimately, provides a guide to fill in data for an occurrence.

STARTING THE DICTIONARY BROWSER

Start the Dictionary Browser by selecting
Start → Programs → Eccairs 4 → Tools → Dictionary Browser from the Windows task-bar and performing the standard ECCAIRS logon (see page 3-2): its main window will show up.



The Dictionary Browser can also be invoked more directly while using the main ECCAIRS 4 applications: i.e. the Browser, the Grapher and the Exporter.

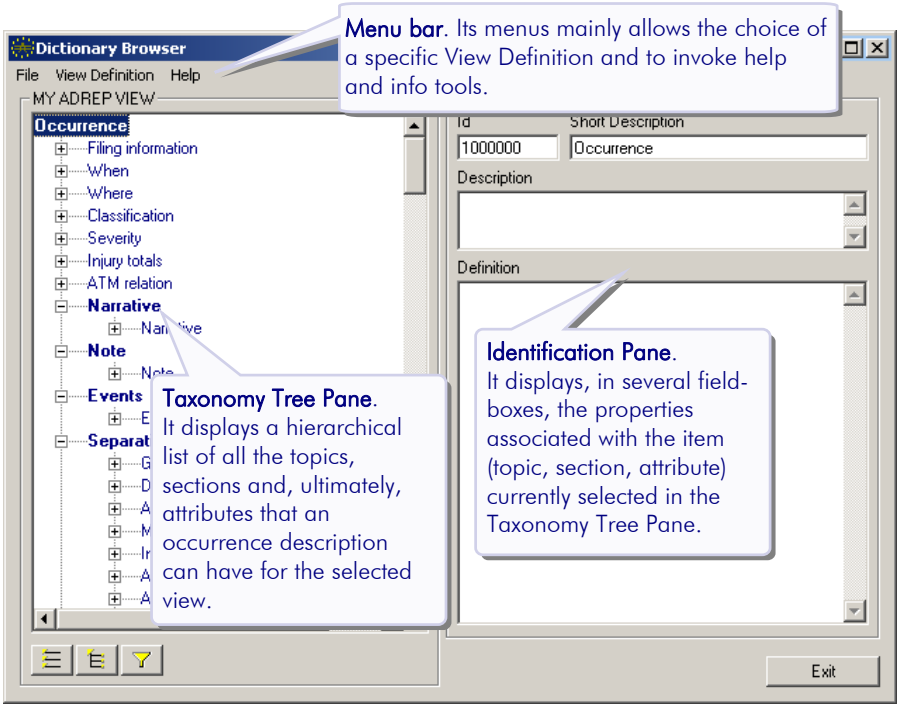


The Help menu of these applications includes a specific menu-item, so that the Dictionary Browser can be started by selecting Help → Dictionary Browser.

CHAPTER 17

USING THE DICTIONARY BROWSER

The Dictionary Browser window is divided into three main sections, identified in the picture below.



Using the Dictionary Browser requires two sort of actions:

1. VIEW SELECTION: Since there are different Views of the occurrence data-structure available in ECCAIRS 4 (see page 4-4), the first step is choosing the appropriate view from the View Definition menu in the menu bar (see next page, 17-12).
2. ITEM SELECTION: The second step involves browsing trough the displayed taxonomy using the Taxonomy Tree Pane, until the wanted item (topic, section or attribute) is selected. The Identification Pane will then display the properties associated with that item.

The next sections will describe in detail the layout and usage of the Taxonomy Tree Pane, the Identification Pane and its sub-panes and, finally, the menu bar

BROWSING THE TAXONOMY TREE

The taxonomy of the ECCAIRS Suite is the catalogue describing what information can be stored in the ECCAIRS Repository and how this information is (possibly) encoded in the data fields.

The Taxonomy Tree Pane is the area where all the attributes of an occurrence can be viewed.

Occurrences are described by a hierarchical collection of Topics, and each Topic is organised in Sections and Attributes (see pages 2-9 and 9-1).

Clicking on a collapsed node  expands it into its branches.

Clicking on an expanded node  collapses its branches.

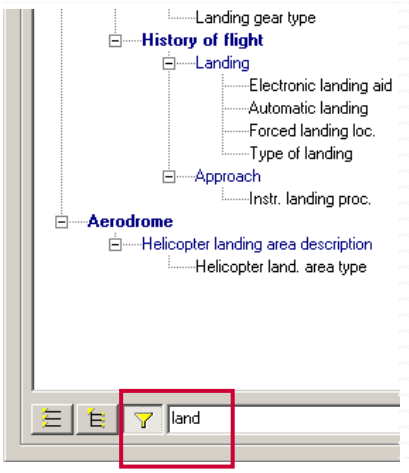
At the bottom of the window three buttons help in the navigation of the Taxonomy tree:

Collapses the entire tree

Expands the entire tree

Toggles on/off a filter on the tree view.
The filter is based on the text entered in the corresponding field on the right of the button, displayed when activating the filter button.

The filter is applied by terminating the filter text with the [ENTER] key.

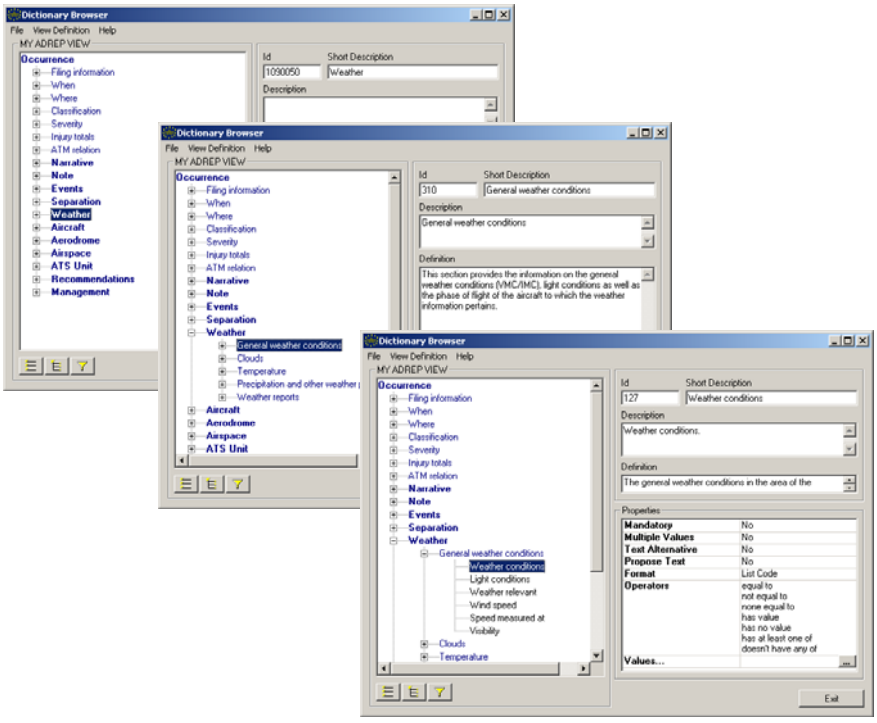


CHAPTER 17

Reading information in the Identification Pane

The Identification Pane displays the ID, description, definition, properties and values an item can assume.

As you move up and down the tree node of the Taxonomy Tree Pane, the Identification Pane will display all the attributes associated to each level of the tree node.

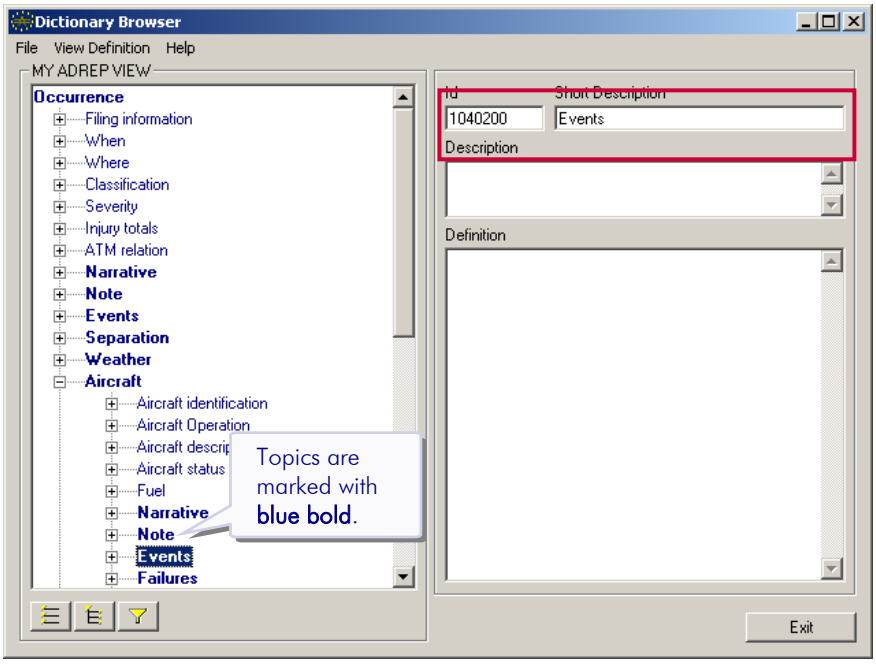


The specific information displayed form nodes at different level of the taxonomy tree (topics, sections, attributes) is different and is described on the next pages.

Topic Identification pane

Topics (for example, Aircraft-Events) are identified and described in the identification pane (right pane) by:

- ☑ Id, the topic identification number used within ECCAIRS
- ☑ Short Description, which corresponds to the name of that topic actually displayed in the taxonomy-tree.

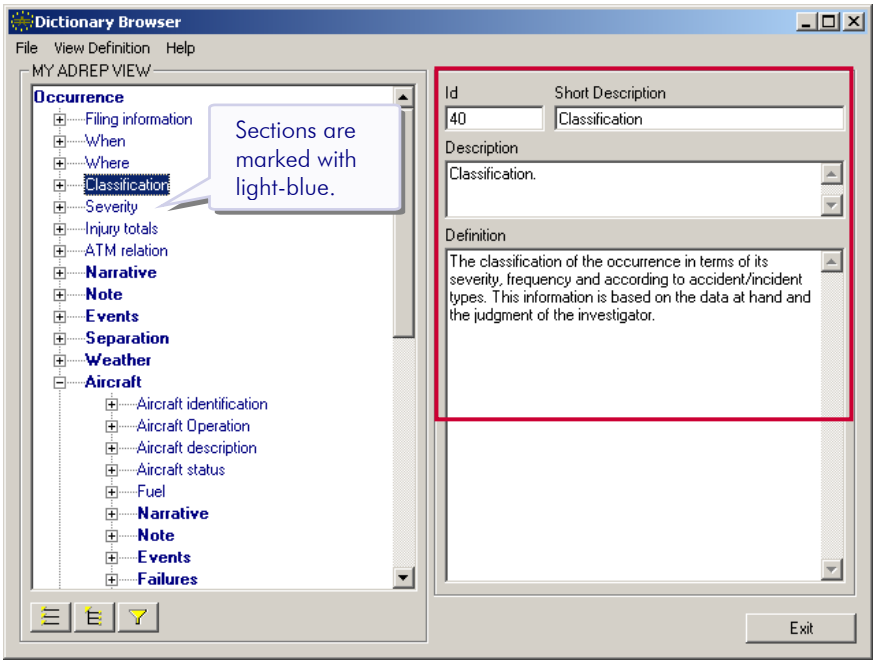


This holds for any level topics: the root topic (i.e. Occurrence), second level topics (for example, Narrative or Aircraft), third level topics (for example, Aircraft Events) and so on.

Section Identification pane

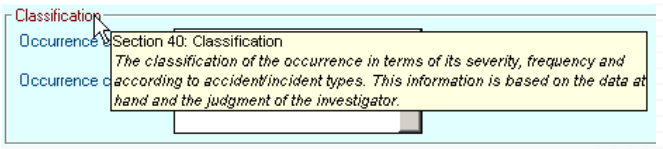
Sections (for example, Classification) are identified and described in the identification pane (right pane) by:

- ☑ Id, the section identification number used within ECCAIRS
- ☑ Short Description
- ☑ Description
- ☑ Definition.



In the Definition Pane, there is an exhaustive explanation of the meaning of the current Section.

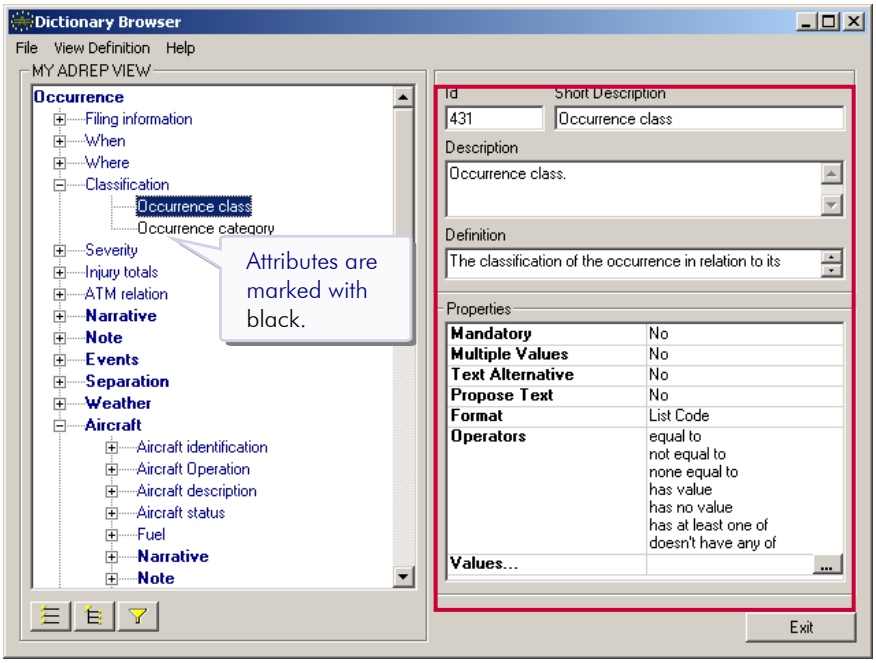
The section Id, Short Description and its Definition are used, for instance, in the ECCAIRS Browser application to show tool-tips about section definitions, using the [CTRL] + click-on-section-name mechanism (see page 10-6 for details), both in the browsing and in the editing phases.



Attribute Identification pane

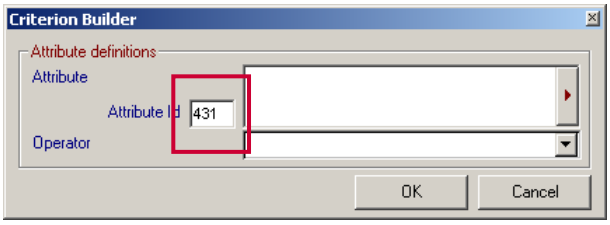
Attributes (for example, Occurrence class) are identified and described in the identification pane (right pane) by:

- ☑ Id, the attribute identification number in the taxonomy
- ☑ Short Description
- ☑ Description
- ☑ Definition
- ☑ Properties.



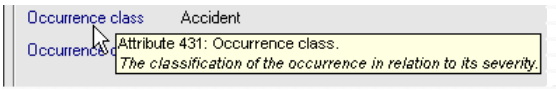
The Properties Pane lists all the attribute properties and values, such as operators applicable in a query (for example, equal to), or value format (for example, long integer), measurement units usable to specify a value, etc.

The attribute **Id** can be used, in all ECCAIRS applications needing to create and **edit queries** or to **specify attributes** (**Browser**, **Grapher**, **Generator**, ...) to directly select an attribute in the taxonomy-tree by typing-in its identifier.



The **Operators** field in the **Properties pane** are used to provide the choice of operator when building criteria in queries. See Criterion Builder, page 7-13, or Setting variables and tracing the graph, page 11-8, for details.

The attribute **Id**, **Short Description** and its **Definition** are used, for instance, in the **ECCAIRS Browser** application to show **tool-tips** about attribute definitions, using the **[CTRL] + click-on-attribute-name** mechanism (see page 10-6 for details), both in the browsing and in the editing phases.

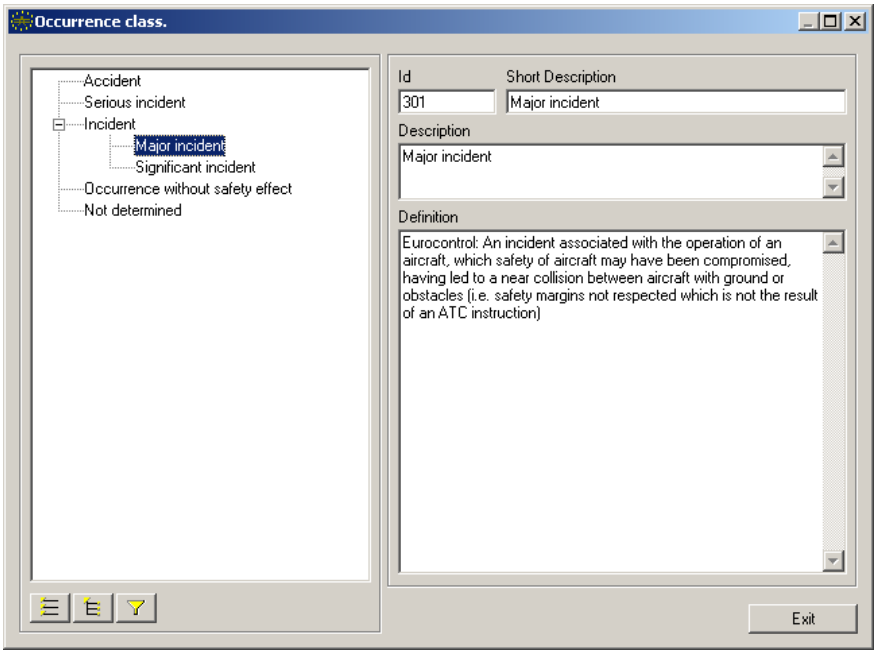


The attributes also have an additional **Values...**property, at the very bottom of the Properties Pane.

Clicking on the corresponding **...** button, opens a specific attribute-value browse dialog window (see next section).

ATTRIBUTE-VALUES BROWSE WINDOW

The attribute-values browse window, accessible through the button of the Values... field in the main Dictionary Browser window, has the same structure and functionality, but applied to attribute values.



On the left side, the values-tree pane, there is a hierarchical list of all the values which can be chosen for the attribute previously selected in the main window.

The attribute-value currently selected in the values-tree pane (for instance, Occurrence class = Major incident) are identified and described in the identification pane (right pane) by:

- ☑ Id, the value-attribute identification number in the taxonomy
- ☑ Short Description
- ☑ Description
- ☑ Definition.

As usual in the tree pane, a single node can be collapsed/expanded:

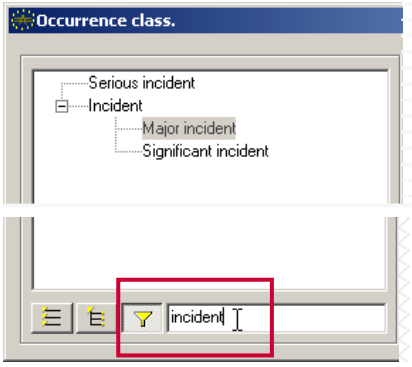
- ☑ Clicking on a collapsed node expands it into its branches.
- ☑ Clicking on an expanded node collapses its branches.

Three buttons also help in the navigation of the attribute-values tree:

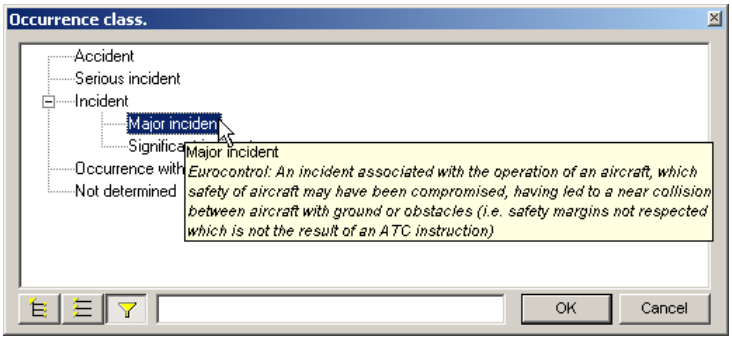

Collapses the entire tree


Expands the entire tree

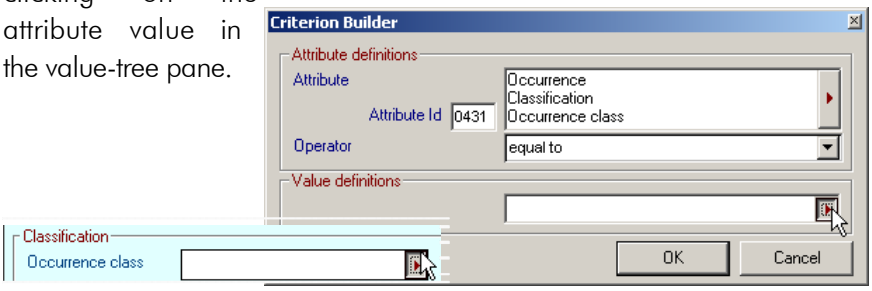

Toggles on/off a filter on the tree view. The filter is applied by terminating the filter text with the [ENTER] key.



The attribute-vale Short Description and Definition provide the text to be displayed in tool-tips available in ECCAIRS applications when selecting a value from a hierarchical selection and search box (see page 10-6 for details).



Value tool-tips are invoked by holding down the [CTRL] key while clicking on the attribute value in the value-tree pane.



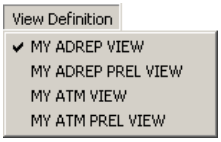
Selecting a value is done in the Browser, in **edit mode** and with queries, and in all the ECCAIRS applications allowing to **edit a query**, hence specifying a value definition: i.e. Grapher, Exporter, E4F Generator.

VIEW DEFINITION, FILE AND HELP MENUS

The Dictionary Browser has a menu bar with three menus.

View Definition menu

The **View Definition** menu allows to select the appropriate view over the occurrence data-structure from those available in ECCAIRS 4 for display and browsing in the Taxonomy Tree Pane (see page 4-4).



The view selected, either by default or by user choice on the menu, is marked with a leading tick sign in front of the corresponding menu-item.

The name, number and actual definition of the views, as well as their order in the menu, may vary according to specific settings in the Repository the user is connected to.

The **default view** used in the Taxonomy Tree Pane is the first view (i.e. the topmost item) from the View Definition menu-items. Since the specific views available in the menu may vary, so may the selected default view.

File menu

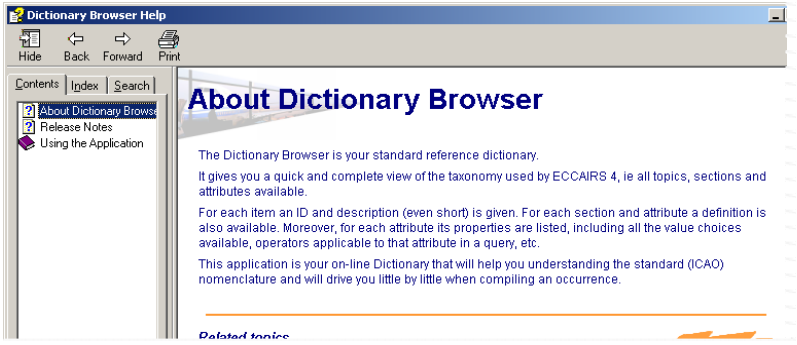
The **File** menu has a single item, **Exit**, to quit the application when selected.

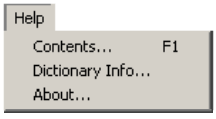
The Dictionary Browser can also be quitted with either the bottom right **Exit** button or the standard Windows top right close control of the Dictionary Browser main window.

Help menu

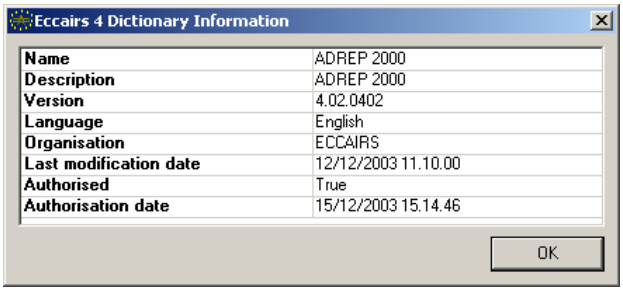
The **Help** menu has three items:

☑ **Contents... F1** invokes the standard Windows help support. This support can also be started by the **[F1]** keyboard key.



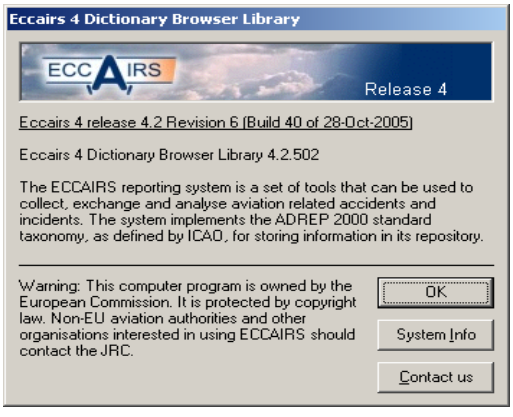


☑ **Dictionary Info...** shows information about the Dictionary in use.



☑ **About...** displays information about the software version in use and can give access to the system information on the computer where ECCAIRS is currently running, through the **System Info** button.

Select **OK** to close it.



18 Exporter

What is the Exporter

The ECCAIRS 4 Exporter is a tool used to export subsets of data from the database in a variety of different formats.

It is up to the user of the exporter to determine the final usage of the data which is exported.
Examples of some possible usage include:

- ☑ Creation of proprietary customised reports
- ☑ Analysis of sub-sets of information in 3rd party environments
- ☑ Free text searches on all attribute values
- ☑ Passing information to users of non compatible systems.

Most probably, as a user, you will find that many (if not all) of your requirements regarding the extraction of data for your particular purpose will be met.

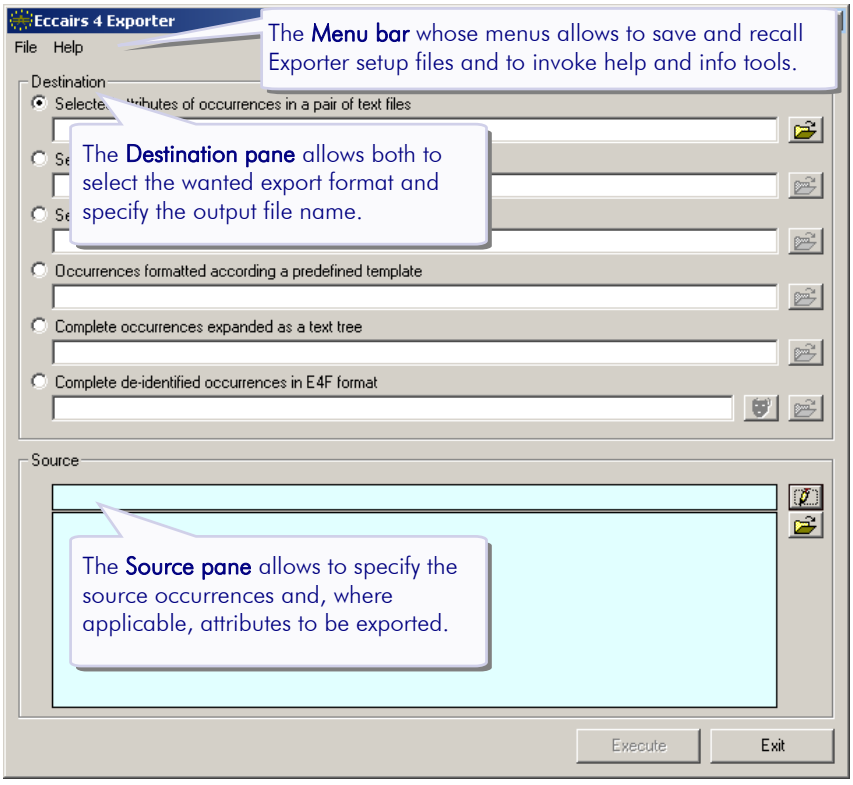
In fact, though the Exporter allows to export data in many different formats, the way this is achieved is very much consistent with the other ECCAIRS applications.

The application makes use of the same basic building blocks (Query Builder, logons, user interface elements, etc.) as the standard ECCAIRS applications.

It is important to know that the Exporter always respects the security settings of the repository's security profile, so that confidentiality, if applied, is maintained.

STARTING AND OPERATING THE EXPORTER

Start the ECCAIRS 4 Exporter by selecting
Start → Programs → Eccairs 4 → Tools → Exporter from the Windows task-bar and performing the standard ECCAIRS logon (see page 3-2): its main window will show up.

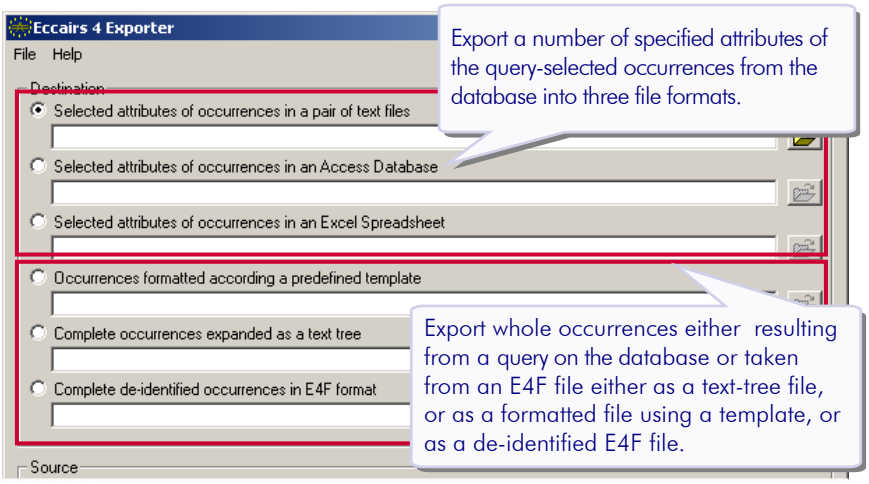


The upper pane, the **Destination pane**, allows to specify the target-output file-names and choose the specific export format:

- ☑ Export a number of specified attributes of the query-selected occurrences from the database into text, Access or Excel file(s)
- ☑ Export whole occurrences either resulting from a query-on the database or taken from an E4F file into output files, either in a fixed text-tree format, or in a template-driven HTML/RTF/TXT format, or de-identified in an E4F file.

The **Source pane** (the lower pane) allows to either specify the query on the database or the E4F file (where applicable) providing the occurrences to be exported.

Also, where applicable, the specific attributes to be exported can be specified.



The general operating sequence to run the Exporter is:

1. Select the desired **export format** in the Destination pane
2. Select the **destination file name** and **folder**
3. Select the **source occurrences** to be exported, using the Source pane tools
4. According to the specific export-format choice, either:
   a) Select the specific **attributes** to be exported (**only** for text, Excel and Access export-format), or
   b) Prepare and select the **template file** (**only** for formatted-via-template export-format), or
   c) Select the **attributes** not to be exported (**only** for de-identified E4F export-format).
5. Push the **Execute** button
6. According to the specific export-format choice, other dialog boxes may be displayed for **additional choices**
7. The export **output file is generated**
8. When done, push the **Exit** button to close the Exporter.

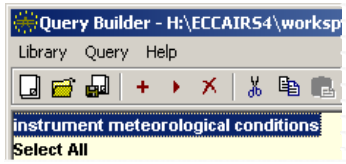
SELECTING THE OCCURRENCES TO EXPORT

Selecting the occurrences to export is achieved by specifying a query on the database. Also, for some of the export formats available, the occurrences to be exported may be taken from an E4F file.

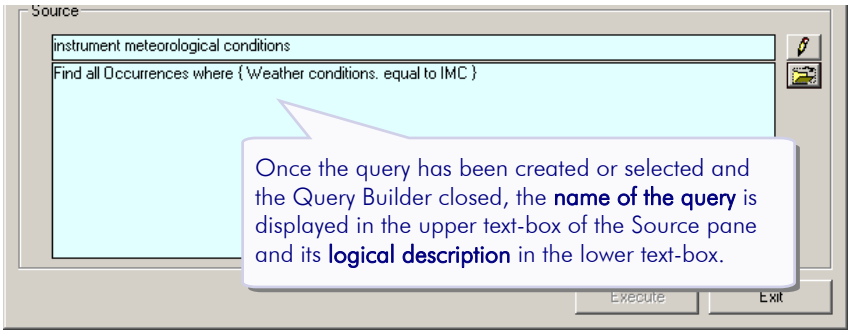
Occurrences from database

The ECCAIRS Query Builder is used to select the occurrences and the attributes, with applicable export formats, to be extracted from the database.

Click on the **open-file icon-button** in the upper left of the Source pane to invoke the Query Builder



The Query Builder window is displayed, the last- query library used is automatically opened and its queries are available for selection and/or editing. As usual, it is also possible to open or create other query libraries or create new queries (for details see page 7-6 onwards).



Note that the actions performed up to here do not yet execute the selected query.

"On the spot" queries

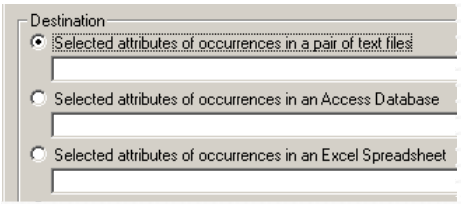
It is also possible to create/edit a query on the spot, without resorting to the whole Query Builder (i.e. without opening any query library and selecting any of its existing queries). This is the only way to edit a query which was stored in a E4E export file and is not available anymore in a Query Library.

Clicking on the **pencil icon-button** opens a Restriction Editor window (see next section, page 18-6).

The query specified on the spot with the Restriction Editor is automatically saved in E4E export configuration files (see page 18-20).

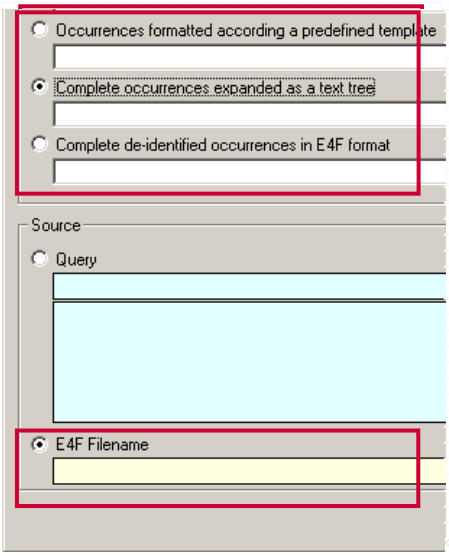
Exporting specific attributes

In addition, only the first three choices of export format (text, Excel and Access) also require the selection of the attributes to be exported.



See next section, page 18-6, for details.

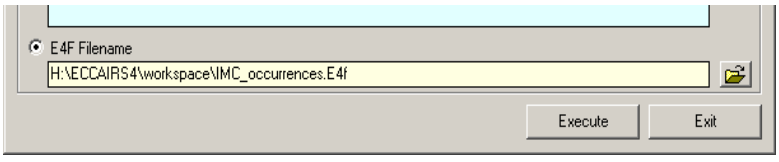
Occurrences from E4F file



In the case of **tree-text, formatted-via-template** and **de-identified E4F** export-format choice (the last three in the list), the source occurrences to be exported can also, in alternative to the query on the database, be provided by an E4F file.

Select the **E4F Filename** choice in the Source pane, whose text-box has yellow background to distinguish it at a glance from the query text-boxes (pale-blue).

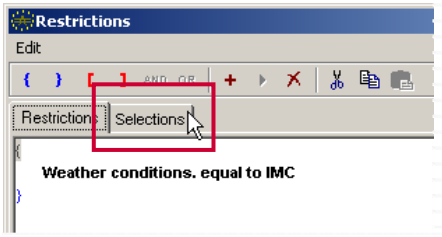
Then either type in the full path to the output export-file in the yellow text-box, or click on the **open-file button** to invoke the standard Windows file browse dialog for selection.



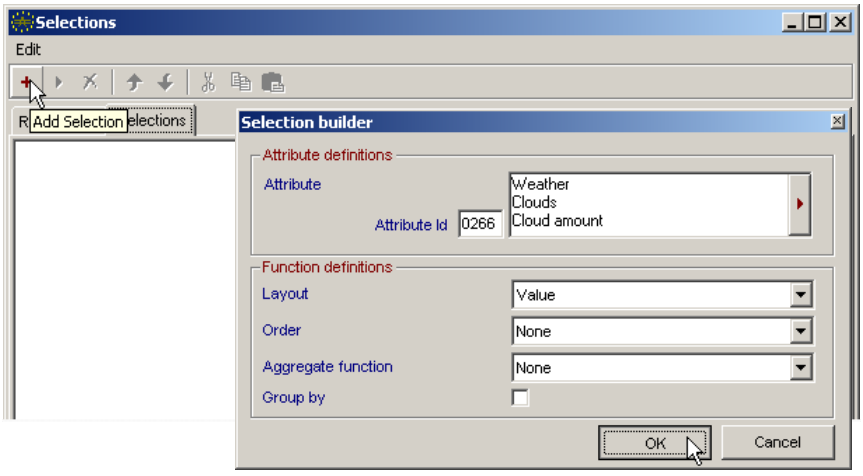
SELECTING THE ATTRIBUTES TO EXPORT

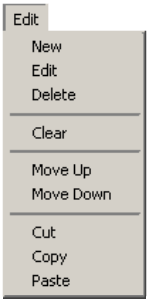
When choosing either text, Excel or Access export-formats in the Destination pane of the Exporter main window, it is also necessary to specify the specific attributes to be exported.

To select attributes, click on the pen icon in the Source pane to edit the currently selected query with the Restrictions Editor of the Query Builder.



The Restrictions edit pane is the one normally used to edit queries used to find specific occurrences. Click on the Selections tab to switch to the Selections edit pane instead.

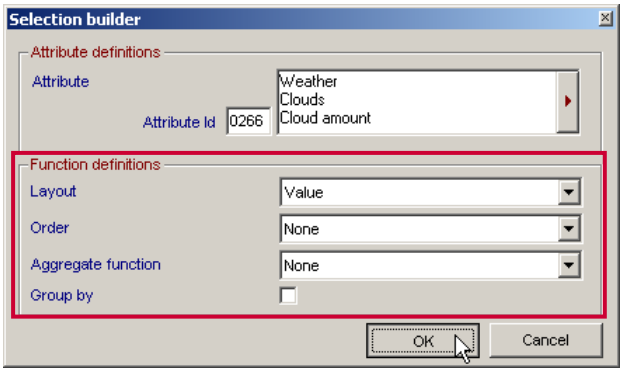


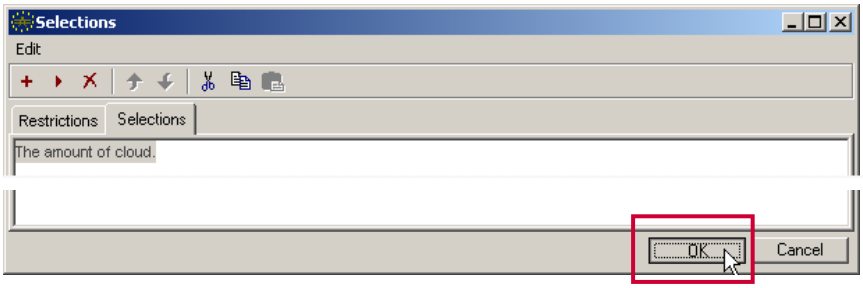


Attributes can be selected using the functions available both in the Edit menu and in the Selections Editor toolbar.

The Selections editing functions are a subset of the standard editing functions available for queries in the Restriction pane (for details see page 7-9 onwards).

In addition to the pure selection of attributes to be exported, it is also possible to change their Layout, determine their Order, apply an Aggregate function or Group their values. These options are available in the Function definitions pane of the Selection builder dialog, which is invoked whenever adding/editing an attribute in the Selections edit pane.

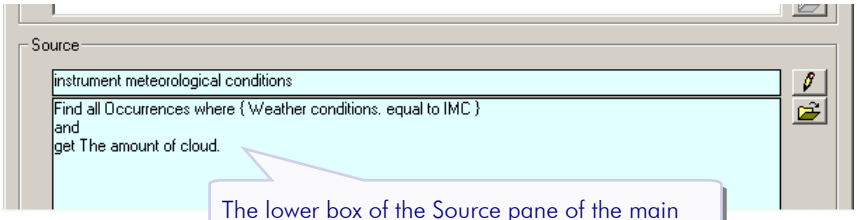




It is best to practice with various options to understand the rules for combining different functions for the attributes selected. The system will give you appropriate hints when combinations not allowed are chosen.

Be aware that certain rules apply when combining different functions for the selected attributes. For example when one attribute is used for grouping, the other attribute must also have specific functions applied (count, for instance).

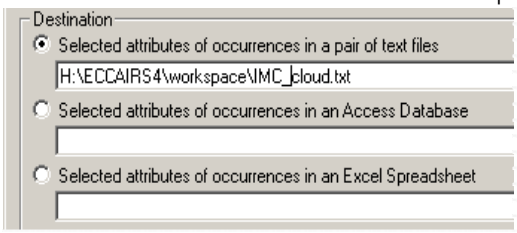
Once the attributes, and related functions, are specified, the Selections Editor can be closed by clicking its OK button, at the bottom right corner. Closing wit with the Cancel button discard any modification made in the editing session.



The lower box of the Source pane of the main Exporter window will also display the choice of attributes to be exported with the query.

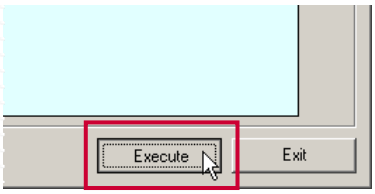
EXPORT SELECTED ATTRIBUTES IN TEXT, ACCESS OR EXCEL FORMAT

The first three choices in the Source pane allows to export query-selected occurrences from the database, with a specified set of their attributes, into text, Access or Excel file(s).



Proceed as follows:

1. Select one of the three **export formats** in the Destination pane
2. Specify the full file path and name for the **output file** by typing it into the corresponding text-box or by clicking on the **file-open** icon-button to invoke the standard file browse dialog
3. Specify the **query** to select the **occurrences** to be exported (see page 18-4) and specify the **attributes** to be exported (see page 18-6) through the Source pane
4. To start the export procedure press the **Execute** button.



The occurrences exported and their selected attributes are always logically organised in two tables, in all the three export-formats available: one of the table contains the occurrences in **Flat** format and the second table in **Expanded** format (see page 18-10 onwards for details).

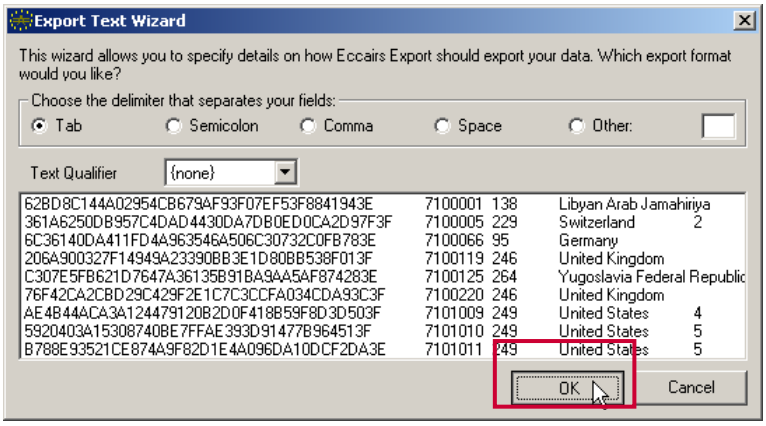
Access and Excel output format

The Access export generates an Access (JET) database where selected occurrences and attributes are stored in a pair of Access tables, one named Flat and the other named Expanded.
The Excel export generates an Excel workbook where selected occurrences and attributes are stored in a pair of Excel spreadsheets, one named Flat and the other named Expanded.

Text output format

The text files export generates a pair of related text files where selected occurrences/attributes are stored.
The names of the two files will be the name of the file as is displayed in the text-box, concatenated with "expanded" and "flat".
For instance, if the destination file name entered is `IMC-cloud.txt`, the two export text files generated will be named `IMC cloud-flat.`txt and IMC_cloud-expanded.txt.

Pressing the Execute button displays a Text Export Wizard dialog.



This dialog allows to specify:

- ☑ the separator to be used between the different columns
- ☑ the Text Qualifier to be used to encapsulate the various strings.

Pushing the OK button starts the actual export process.

FLAT ATTRIBUTE FORMAT

The text, Access or Excel export options all provide a pair of tables as output: one of the table contains the occurrences, with their selected attributes, in flat format.
Its first five columns contain the following values:

RN	KEY	SFNR_V	SR_V	SR_VD

Where:

RN ..... Row Number, a sequential number identifying the row in the output table

KEY ..... Occurrence signature, a code uniquely identifying an occurrence object in the universe

SFNR_V .... State File Number Value, the unique identifier for an occurrence within a state's administration

SR_V ..... State Reporting Value, the code for a specific state in the ECCAIRS Repository

SR_VD..... State Reporting Value Description, the expanded readable version of the State reporting the occurrence.

Here is an example of the first five columns of the flat format in Excel.

export-sample-excel.xls

	A	B	C	D	E	
1	Row Number	KEY	0452_V_State file number	0453_V_State reporting	0453_VD_State reporting	02 an
2	1	62BD8C144	7100001	138	Libyan Arab Jamal	
3	2	361A6250DE	7100005	229	Switzerland	
4	3	6C36140DA	7100066	95	Germany	
5	4	206A900327	7100119	246	United Kingdom	
6	7	AE4B44ACA	7101009	249	United States	
7	8	5920403A15	7101010	249	United States	
8	9	B788E93521	7101011	249	United States	
9	10	D76D41173F	7101013	249	United States	
10	11	9D3C899860	7101053	249	United States	
11	12	19548EC7E9	7101054	249	United States	
12	13	DCD1B1775	7101055	249	United States	
13	14	05407A0162	7101056	249	United States	
14	15	C7919F3EFI	7101057	249	United States	
15	16	5A1520125F	7101066	249	United States	

Flat / Expanded

Additional attribute columns, corresponding to the attributes chosen for export, might be added up to a maximum of three for each attribute:

ATTR_V	ATTR_VD	ATTR_VT

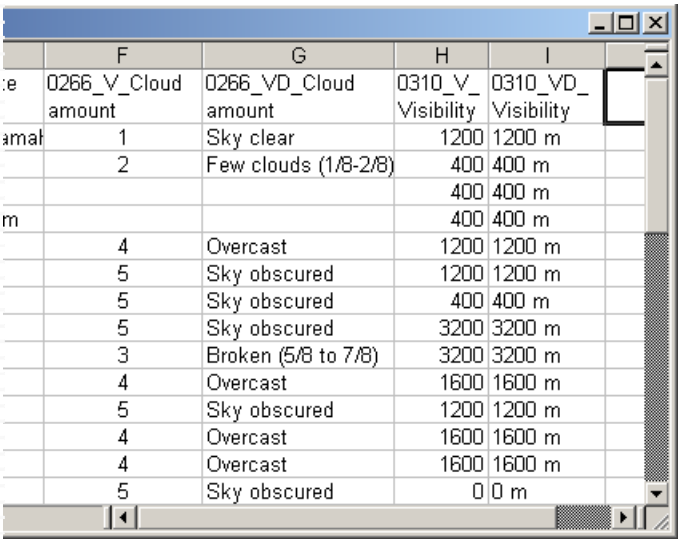
Where:

ATTR_V ..... Attribute Value, the value of the attribute as stored in the ECCAIRS Repository

ATTR_VD ... (optional) Attribute Value Description, the expanded readable version of the attribute value as generated by the installed version of ECCAIRS

ATTR_VT (optional) Attribute Value Type, 0 (coded attribute), 1 (coded attribute with alternative text) or 2 (coded attribute with an alternative text proposed as an extension to the taxonomy).

Here is an example of the attribute columns of the flat format in Excel.



	F	G	H	I
:e	0266_V_Cloud amount	0266_VD_Cloud amount	0310_V_ Visibility	0310_VD_ Visibility
amal	1	Sky clear	1200	1200 m
	2	Few clouds (1/8-2/8)	400	400 m
			400	400 m
m			400	400 m
	4	Overcast	1200	1200 m
	5	Sky obscured	1200	1200 m
	5	Sky obscured	400	400 m
	5	Sky obscured	3200	3200 m
	3	Broken (5/8 to 7/8)	3200	3200 m
	4	Overcast	1600	1600 m
	5	Sky obscured	1200	1200 m
	4	Overcast	1600	1600 m
	4	Overcast	1600	1600 m
	5	Sky obscured	0	0 m

NOT ALWAYS A SINGLE ROW PER OCCURRENCE

Depending on the nature of the attributes exported, there might be more than one row for each occurrence.

For instance, when exporting the aircraft model, if there are two aircraft involved in the occurrence two rows will be produced, where the first five columns, identifying the occurrence, will be in any case identical.

EXPANDED ATTRIBUTE FORMAT

The second table generated by the text, Access or Excel export options contains the occurrences and selected attributes in expanded format. Each row will include data related to each attribute to be exported.

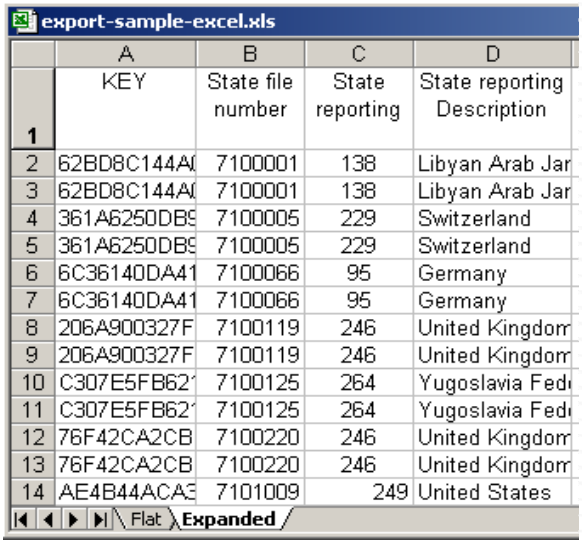
Its first four columns contain the following four values:

KEY	SFNR_V	SR_V	SR_VD

Where:

- **KEY** — **Occurrence signature,** a code uniquely identifying an occurrence object in the universe
- **SFNR_V** — **State File Number Value**, the unique identifier for an occurrence within a state's administration
- **SR_V** — **State Reporting Value**, the code for a specific state in the ECCAIRS Repository
- **SR_VD** — **State Reporting Value Description**, the expanded readable version of the State reporting the occurrence.

Here is an example of the first four columns of the expanded format in Excel.



export-sample-excel.xls

	A	B	C	D
1	KEY	State file number	State reporting	State reporting Description
2	62BD8C144A	7100001	138	Libyan Arab Jar
3	62BD8C144A	7100001	138	Libyan Arab Jar
4	361A6250DB	7100005	229	Switzerland
5	361A6250DB	7100005	229	Switzerland
6	6C36140DA41	7100066	95	Germany
7	6C36140DA41	7100066	95	Germany
8	206A900327F	7100119	246	United Kingdom
9	206A900327F	7100119	246	United Kingdom
10	C307E5FB62	7100125	264	Yugoslavia Fed
11	C307E5FB62	7100125	264	Yugoslavia Fed
12	76F42CA2CB	7100220	246	United Kingdom
13	76F42CA2CB	7100220	246	United Kingdom
14	AE4B44ACA3	7101009	249	United States

Flat | Expanded

There are then six other columns which are used to describe each single attribute on a line:

ATTR_ID	ATTR_DESCR	ATTR_V	ATTR_VT	ATTR_VD	UNIT

Where:

ATTR_ID ..... **Identifier** of the attribute following the ECCAIRS coding of ADREP 2000

ATTR_DESCR Textual **description** of the attribute as generated by the installed version of ECCAIRS

ATTR_V ..... **Attribute Value,** the value of the attribute as stored in the ECCAIRS Repository

ATTR_VT ..... **(optional) Attribute Value Type,** 0 (coded attribute), 1 (coded attribute with alternative text) or 2 (coded attribute with an alternative text proposed as an extension to the taxonomy)

ATTR_VD .... **Attribute Value Description,** the expanded readable version of the attribute value as generated by the installed version of ECCAIRS

UNIT ..... (optional) The **measurement Unit** in which the attribute value is expressed.

Here is an example of the additional columns of the expanded format.

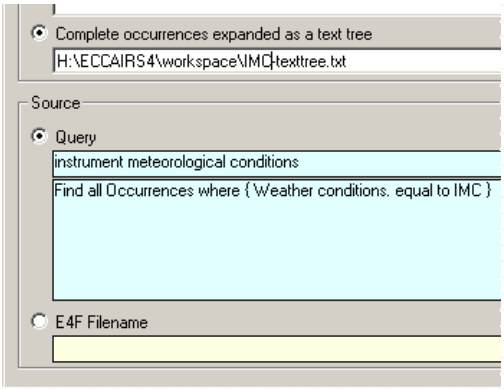
E	F	G	H	I	J
Attribute ID	Attribute Description	Attribute Value	Attribute ValueType	Attribute ValueDescription	Unit
266	Cloud amount	1	0	Sky clear	
310	Visibility	1200	0	1200 m	m
266	Cloud amount	2	0	Few clouds (1/8-2/8)	
310	Visibility	400	0	400 m	m
266	Cloud amount		0		
310	Visibility	400	0	400 m	m
266	Cloud amount		0		
310	Visibility	400	0	400 m	m
266	Cloud amount		0		
310	Visibility		0		m
266	Cloud amount		0		
310	Visibility		0		m
266	Cloud amount	4	0	Overcast	

In the expanded format you will see almost always more than one row per occurrence, since there is a row for each attribute exported.

To fully appreciate the export formats it is best to experiment with various queries and analyse the results.

EXPORT OCCURRENCES AS TEXT-TREE

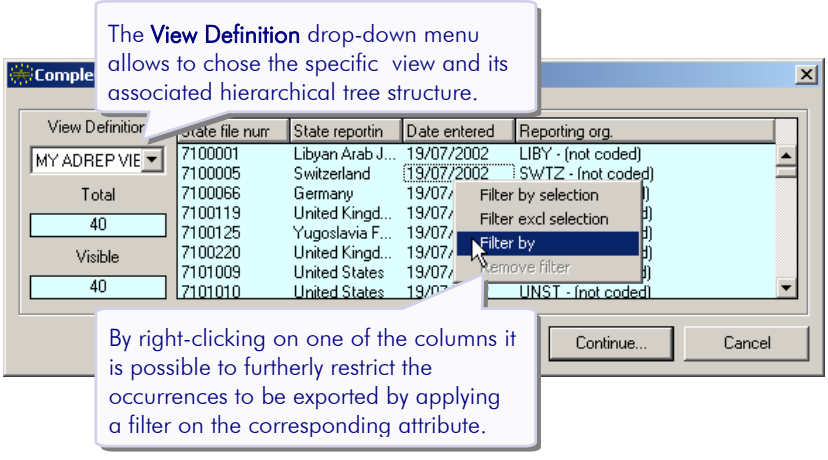
The text-tree export format generates a single output file where the attributes of the occurrence are placed in a hierarchical tree structure (defined by the chosen view) in their expanded textual form. The (coded) database values of the attributes are not exported.



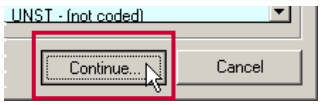
Proceed as follows:

1. Select the **Complete occurrences expanded as a text tree** export format in the Destination pane
2. Specify, into the Destination pane, the full file path and name for the **output file** by typing it into the corresponding text-box or by clicking on the **file-open** icon-button to invoke the standard file browse dialog

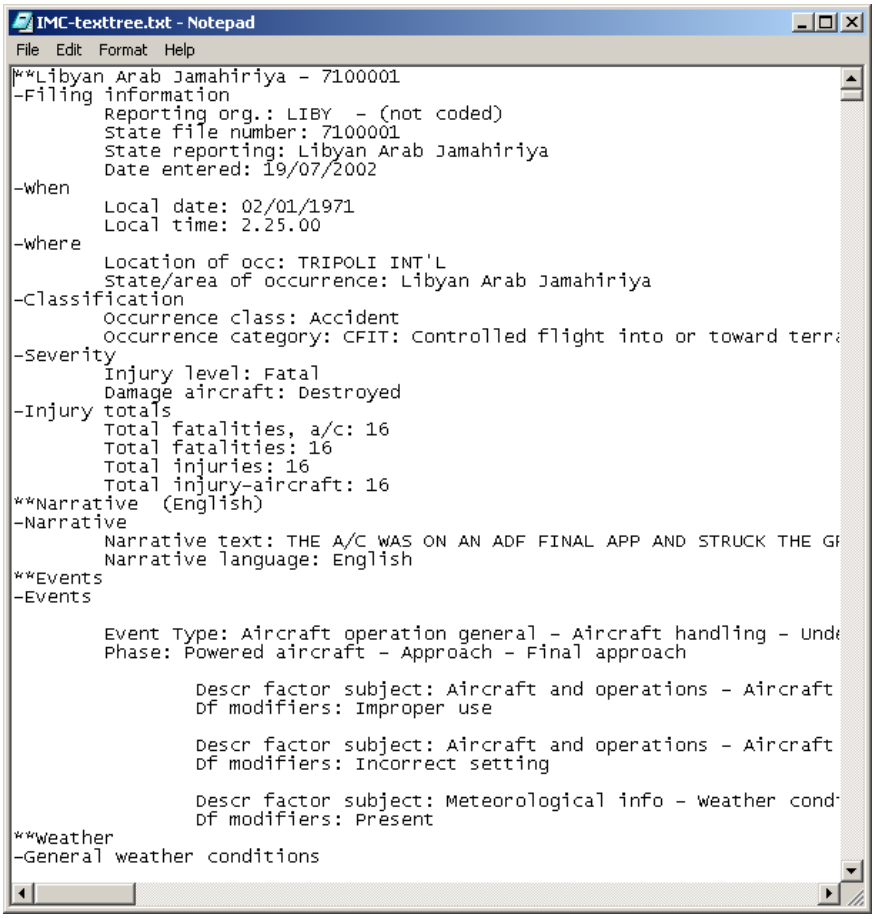
3. Specify, using the Source pane tools, either the **Query** to select the **occurrences** to be exported (see page 18-4) or, alternatively, the **E4F Filename** with the occurrences to be exported (see page 18-9 for details)
4. Push the **Execute** button.
   The dialog window that shows up displays the list of the occurrences.



5. To proceed with the actual exporting click on the Continue... button.



In the picture below a sample of the text-tree output file, using an ADREP 2000 view, is displayed.

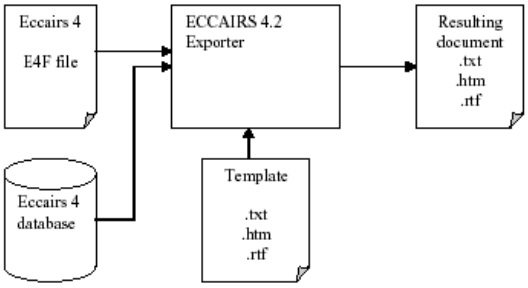


EXPORT OCCURRENCES USING A TEMPLATE (HTML, RTF, TXT FORMAT)

The export using a template generates a single output file where the attributes of the occurrence are placed following a formatted template defined by the user. The limitation for using this exporter function is that the template provided, and thus the final document, must be based on normal text. In practice this makes the exporter usable for .TXT files, .HTM files and .RTF files.

As in the text-tree export format case, the (coded) database values of the attributes are not exported.

The RTF and HTML formats open up the application of this export method for complex pre-formatted documents, i.e. the possibility to produce custom reports from an ECCAIRS 4 data-source (query or E4F file). Moreover, because ECCAIRS 4 exporting scripts can be saved as E4E files (see page 18-20), these document generation templates can be exchanged in the ECCAIRS community and re-applied anywhere.



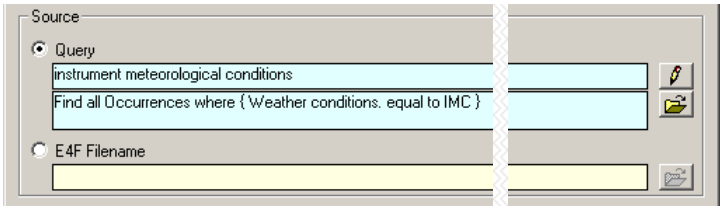
In the template document special Data Tags are placed at convenient places. During the exporting process the content of each occurrence in input is fed into the template document. The system interprets the Data Tags and substitutes them with the appropriate values taken from each occurrence. In order to manage the hierarchical structure of the occurrences some special Control Tags are also defined and take care of producing loops and conditional formatting.

Full details and instructions on building and using template files are given in an specific ECCAIRS White Paper available on Internet at ECCAIRS web site (http://eccairs-www.jrc.it).

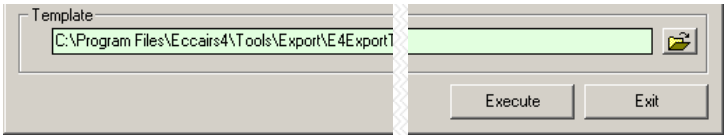
To export using a template proceed as follows:

1. Select the Occurrences formatted according to a predefined template export format in the Destination pane.
2. Specify, into the Destination pane, the full file path and name for the output file either by typing it into the corresponding text-box or by clicking on the file-open icon-button to invoke the standard file browse dialog.

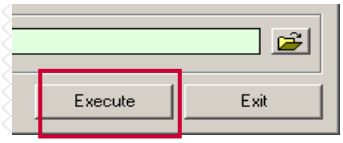
3. Specify, using the Source pane tools, either the Query to select the occurrences to be exported (see page 18-4) or, alternatively, the E4F Filename with the occurrences to be exported (see page 18-9 for details).



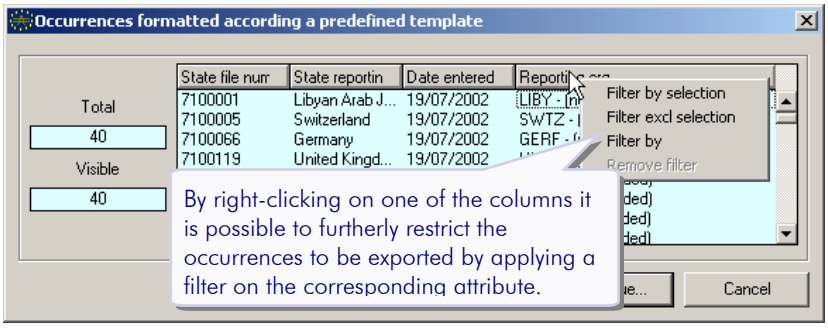
4. Prepare the template file (use the above mentioned White Paper) and select it by either using the open file icon-button or typing in the filename and path in the Template pane.



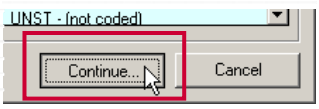
5. Push the **Execute** button.



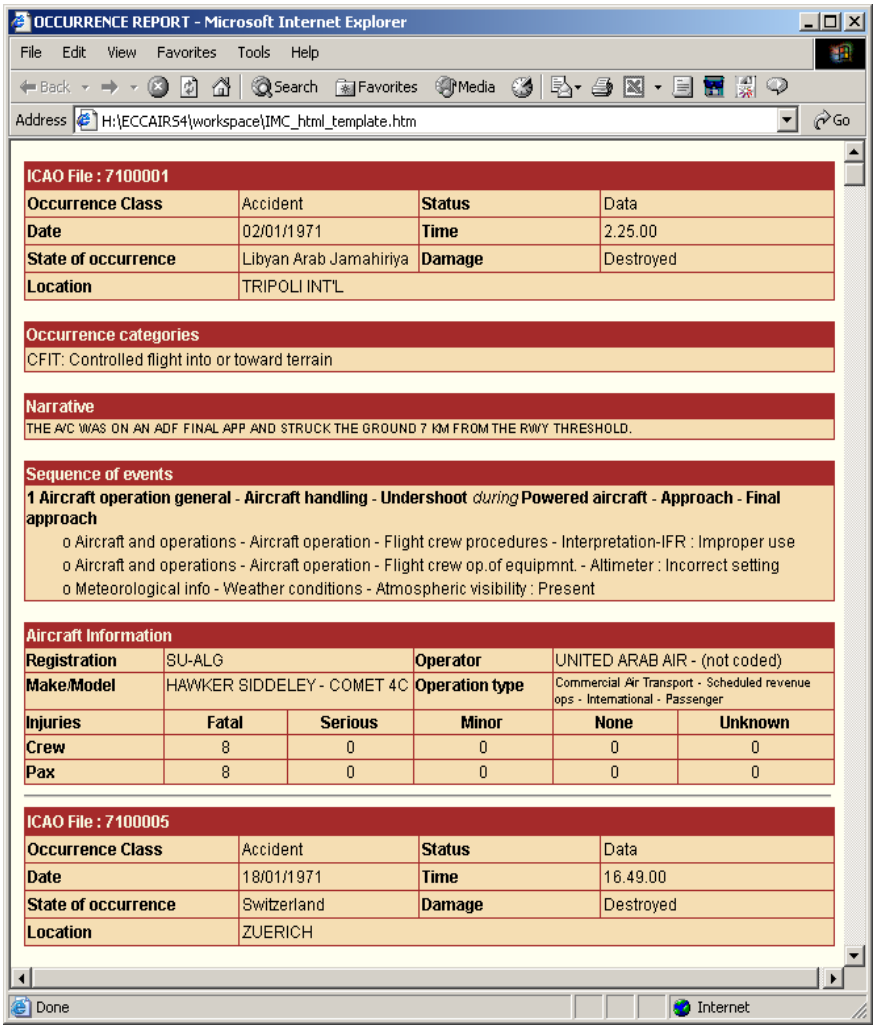
6. The dialog window that shows up displays the list of the occurrences to be exported.



7. To proceed with the actual exporting click on the **Continue...** button.



The picture below shows an exported file generated using the sample HTML template available in the installation folder (see side note).



ICAO File : 7100001

Occurrence Class	Accident	**Status**	Data
Date	02/01/1971	**Time**	2.25.00
State of occurrence	Libyan Arab Jamahiriya	**Damage**	Destroyed
Location	TRIPOLI INT'L		

Occurrence categories

CFIT: Controlled flight into or toward terrain

Narrative

THE A/C WAS ON AN ADF FINAL APP AND STRUCK THE GROUND 7 KM FROM THE RWY THRESHOLD.

Sequence of events

1 Aircraft operation general - Aircraft handling - Undershoot *during* Powered aircraft - Approach - Final approach

- o Aircraft and operations - Aircraft operation - Flight crew procedures - Interpretation-IFR : Improper use
- o Aircraft and operations - Aircraft operation - Flight crew op.of equipmnt. - Altimeter : Incorrect setting
- o Meteorological info - Weather conditions - Atmospheric visibility : Present

Aircraft Information

Registration	SU-ALG	**Operator**	UNITED ARAB AIR - (not coded)
Make/Model	HAWKER SIDDELEY - COMET 4C	**Operation type**	Commercial Air Transport - Scheduled revenue ops - International - Passenger

Injuries	**Fatal**	**Serious**	**Minor**	**None**	**Unknown**
Crew	8	0	0	0	0
Pax	8	0	0	0	0

ICAO File : 7100005

Occurrence Class	Accident	**Status**	Data
Date	18/01/1971	**Time**	16.49.00
State of occurrence	Switzerland	**Damage**	Destroyed
Location	ZUERICH		

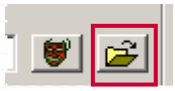
Since ECCAIRS version 4.2.4 hot fix 3 onward, the **Tools\Export** sub-folder of **ECCAIRS installation folder** hosts sample RTF and HTML template files: E4ExportTemplate.rtf, E4ExportTemplate.htm

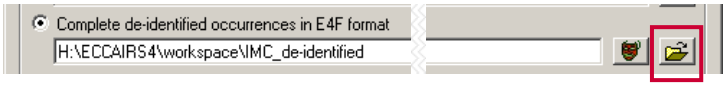
EXPORT DE-IDENTIFIED OCCURRENCES INTO AN E4F-FORMAT FILE

This option allows to export de-identified occurrences into a new E4F file. To de-identify occurrences the specific export attributes to be excluded must be specified before the proper export phase.

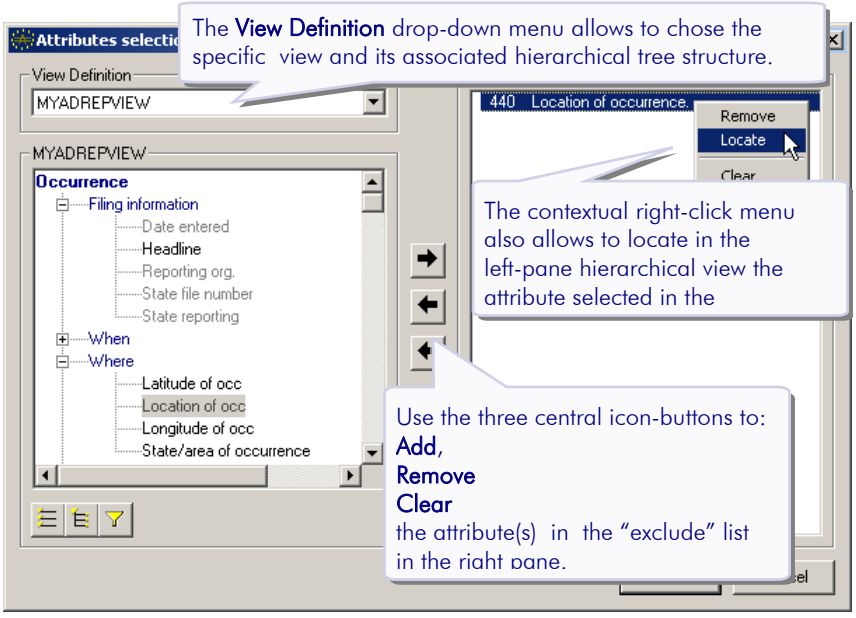
To export using a template proceed as follows:

1. Select the **Complete de-identified occurrences in E4F format** in the Destination pane.
2. Specify, into the **Destination pane**, the full file path and name for the **output file** either by typing it into the corresponding text-box or by clicking on the file-open icon-button to invoke the standard file browse dialog.





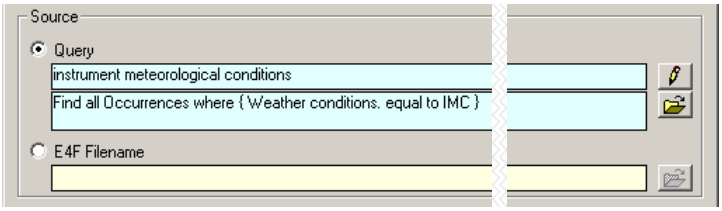
3. On the same row click on the mask icon-button to invoke the **Selected Attributes will not be exported** dialog.



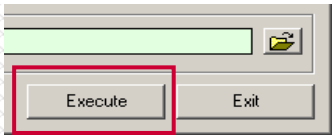
Most of the attributes in clued in **Filing information** section are automatically excluded. They are greyed out in the left pane.

4. Click on to **OK** button when the attributes to be removed in the export have been selected in "exclude" list in the right pane.

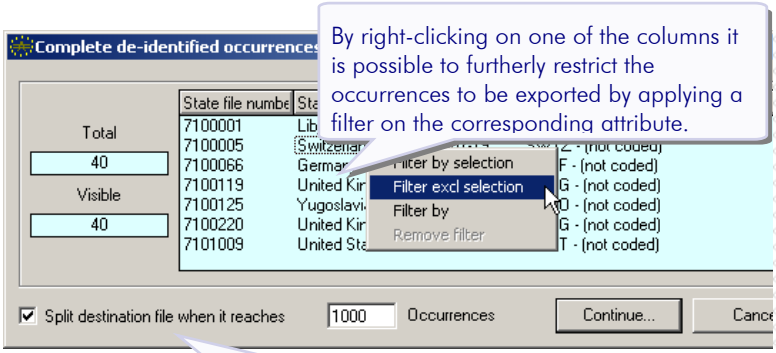
5. Specify, using the Source pane tools, either the **Query** to select the **occurrences** to be exported (see page 18-4) or, alternatively, the **E4F Filename** with the occurrences to be exported (see page 18-9 for details).



8. Push the **Execute** button.

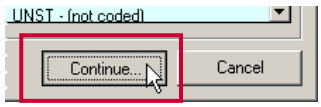


9. The dialog window that shows up displays the list of the occurrences to be exported.



The number of occurrences to be exported in the E4F file can be limited by checking this box and entering the maximum number in the **Occurrence** field.

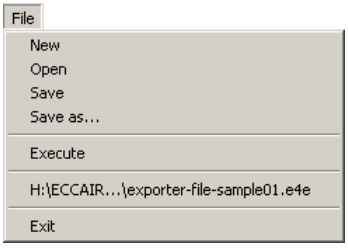
10. To proceed with the actual exporting click on the **Continue...** button.



THE EXPORTER FILE MENU

The Exporter menu bar has only two menus available: the File menu and the Help menu.

The Help menu-items are discussed in section The Exporter Help menu, page 18-24.



The File menu hosts two kind of items/functions:

- ☑ Menu-items related to export configuration files:
  New
  Open and open "most-recently-used"
  Save and Save as...
- ☑ Menu-items for functions also available from buttons, as:
  Execute (to start the export)
  Exit (to quit the application).

E4E export configuration files are discussed in section E4E export configuration files, page 18-23.

E4E EXPORT CONFIGURATION FILES

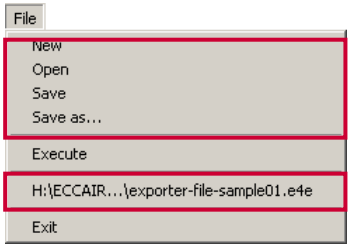
The ECCAIRS export configuration files use the .E4e file extension and are also referred to as **E4E files**.

They allow to store:

1. All the **export file names and paths** specified in the Destination pane
2. The currently selected **export format choice** in the Destination pane
3. The **source E4F file name** with paths and/or the **source Query**, as well as the **template file** (if any) name with paths currently specified in the Source pane
4. The query defined by calling the query builder or created "on the spot". This query contains restrictions and possibly (see page 18-6) selections.

The **File → Open** and **File → "most-recently-used"** menu-items are used to open previously saved ECCAIRS export configuration files.

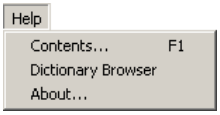
The **File → Save** and **File → Save as...** menu-items are used to save the current configuration into ECCAIRS export configuration files.



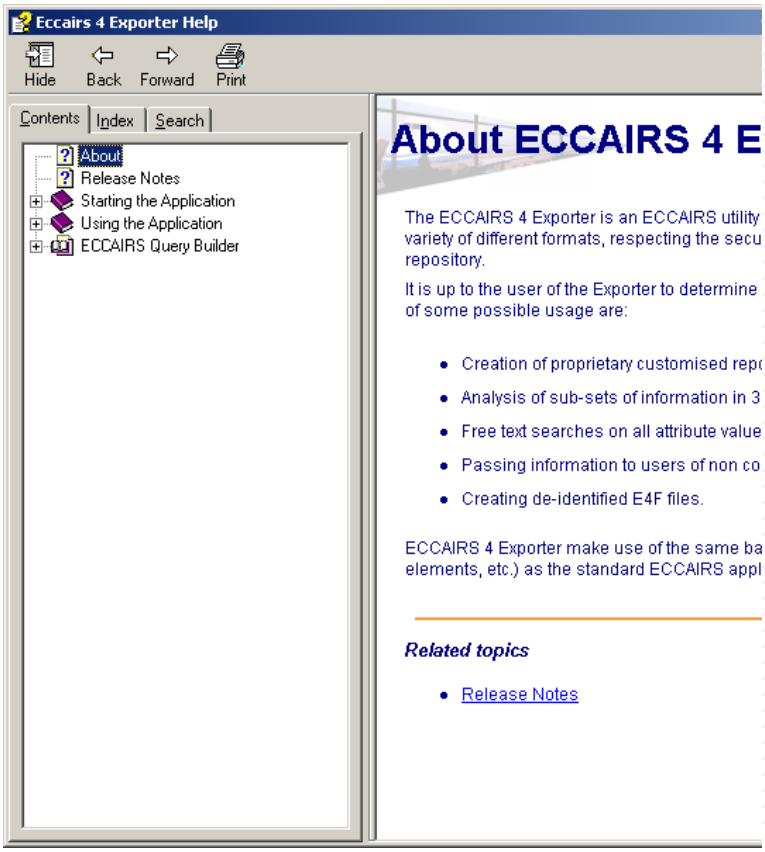
The **File → New** menu-item does not actually create a new configuration file, but rather cleans all the current configuration items form the Exporter main window, i.e. choices, file names, queries, attributes selected, etc.

THE EXPORTER HELP MENU

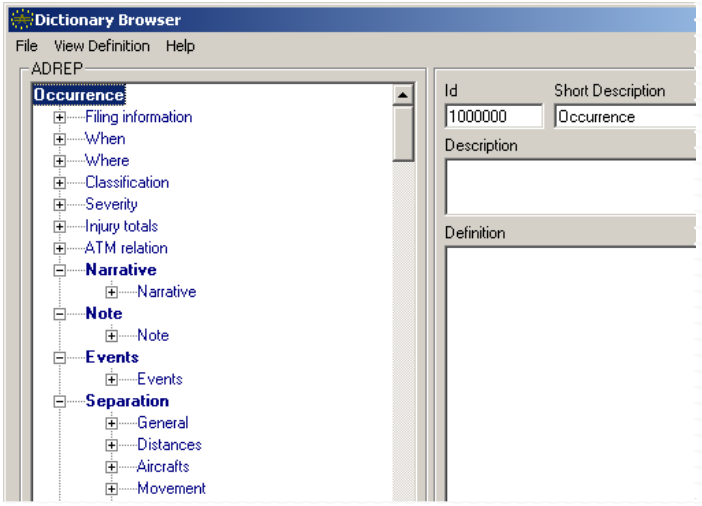
The Help menu has three items:



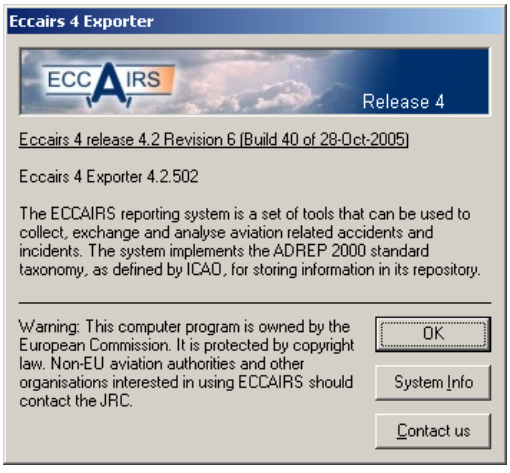
☑ Contents... F1 invokes the standard Windows help support. This support can also be started by the [F1] keyboard key.



☑ **Dictionary Browser...** starts the Dictionary Browser, which can be useful while editing queries and selecting attributes.



☑ **About...** displays information about the software version in use and can give access to the system information on the computer where ECCAIRS is currently running, through the **System Info** button.



Select **OK** to close this window.